GE
Measurement & Control

AnomAlert* Motor Anomaly Detector

Introduction

GE's Bently Nevada* AnomAlert* Motor Anomaly Detector solution provides a low cost innovative AC motor and load anomaly detection system that complements predictive maintenance programs. A very simple user interface, in conjunction with intelligent, on-board model-based condition analysis provides valuable and timely anomaly detection capabilities for most induction, synchronous and variable speed motor-driven equipment. Automated fault analysis using the motor as a mechanical load condition sensor for both the motor and driven load is achieved using CT/CS[1] and PT[2] instrumentation generally already on the motor.

The AnomAlert system is simple to install, requires little user intervention in operation, and combines low start-up costs with the significant benefits of anomaly detection as a complementary component of a predictive maintenance program. Since it generally doesn't require any sensor installation on the motor or associated load, AnomAlert is especially attractive for inaccessible equipment and is applicable to most types of motor driven pumps, compressors, and similar loads.

Benefits

GE's AnomAlert Motor Condition Monitoring solution:

- Installs very easily, typically less than one hour per motor set, assuming that CTs and PTs are installed by a certified high voltage engineer, in conjunction with plant electrical support.
- Requires very little panel space and volume, and has a simple user display.
- Utilizes existing sensing instrumentation when available, or recommended CT/CSs and PTs to match the motor type.
- Performs advanced mathematical modeling to provide automated notifications of many electrical and mechanical faults.
- Increases machine availability by improving maintenance planning and reducing unexpected outages.
- Is easy to use, requires minimal training and very basic support to get started.

Continuous Access to Motor Health Information

Bently Nevada's AnomAlert Motor Anomaly Detector solution enables plant operators or technicians to spend more time managing assets based on information from process data and reliability information, instead of spending time making data collection rounds. This gives your plant personnel a key advantage by reducing the amount of time that the maintenance staff needs to spend gathering information and attempting to identify where a issue is occurring. It enables the engineering team to immediately initiate corrective actions by knowing where best to focus their efforts before more serious problems develop.

Features

- Detects electrical and mechanical faults without additional instrumentation.
- Requires no intervention while continuously monitoring the motor and driven load.
- Provides clear local and remote indication of the type and severity of the problem and the recommended action when a fault is detected.
- Sends an email, detailing potential problems to maintenance staff, avoiding the need for frequent review of data displays.
- Requests condition monitoring when needed.
- Easy to configure.
- Low install cost.
- Requires fewer technologies to support condition monitoring.
- Reduces manning requirements needed to provide same condition monitoring support level.
- Enables Remote Diagnostic Service capability.
- No long cable runs or specialized sensors that require maintenance.
- Continuous monitoring reduces periodic portable data collection when no problems exist.
- No calibration required.
- Identifies opportunities to reduce energy consumption.

Applications

- Roller element bearing motors and driven loads for the following example applications:
    - Cryogenic motor-pump,
    - Submerged
    - Nuclear
    - Offshore
    - Remote
    - Hazardous
    - Difficult access
    - Fin fans
    - Harsh duty

Summary

With a minimum hardware and services investment, overall plant reliability can be improved by applying GE's Bently Nevada AnomAlert Motor Anomaly Detector solutions on your mid-level critical motor driven loads.

Services and expertise .... delivered.

Notes

1. Current transformer/current sensor
2. Potential transformer

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