APPLICATION STORY

MoviTHERM relies on FLIR thermal imaging cameras for Machine Condition Monitoring

MoviTHERM's MIO Series of Intelligent I/O solutions uses FLIR's AX8, A310 or FC-Series R cameras

Combining thermal and visual cameras in a small, affordable package, the FLIR AX8 provides continuous temperature monitoring and alarming for of critical electrical and mechanical equipment.

At the pace of modern business today, no one can afford unplanned production outages and costly downtime. Machine Condition Monitoring (MCM) is all about averting these problems before they happen. Based on its many years of experience with the application of thermal imaging, thermography specialist MoviTHERM (Irvine, CA, USA) designed a dedicated MCM solution with FLIR thermal imaging cameras.

Thermal imaging has proven to be an effective way to monitor machine health and detect potential failure points before a failure can occur. Critical in-service health and wear characteristics of electrical and mechanical equipment can be assessed using thermal imaging, and longitudinal temperature data provides a valuable contribution to predictive maintenance programs.

Thermal imaging is perhaps the easiest non-contact temperature measurement method available. Monitoring mechanical components such as motors, bearings, heat exchangers, cooling fans, exhaust vents, pipes and so on for "hot spots" can alert you to possible future fail points. In addition, thermal scans of electrical components, such as cables, wiring, terminals, and control panels can quickly reveal problems such as load imbalance, current overload, loose wires, corroded terminals, or heat management issues.

Thermal imaging makes these otherwise invisible problems visible, so corrective action can be taken prior to catastrophic failure. That is why deploying thermal imaging cameras for critical equipment monitoring can be a very effective first line of defense against unexpected and unplanned downtime.
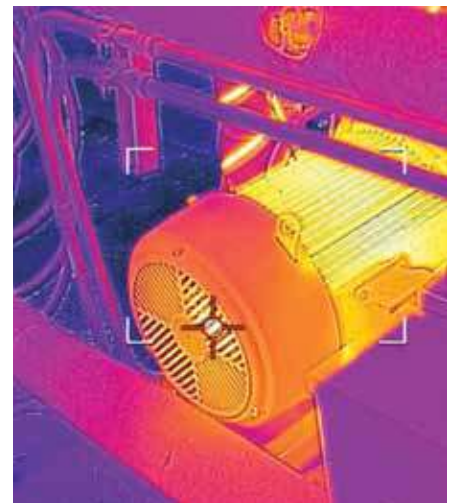
MOVITHERM'S MACHINE CONDITION MONITORING (MCM) SOLUTION

MoviTHERM is an authorized FLIR Systems, Inc. distributor, integrator, solutions provider and product development company. The company offers thermal cameras and thermal imaging solutions for remote monitoring, automated imaging and non-destructive testing. Some of the industries which MoviTHERM serves are aerospace, general manufacturing, steel, food, agriculture, oil & gas, automotive, academia, and paper & plastic.

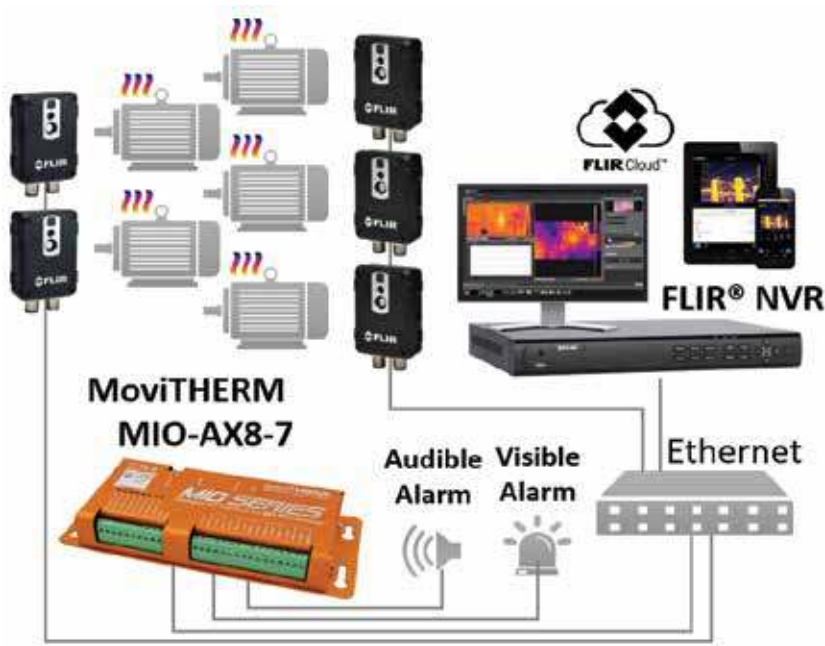To address the growing utilization of MCM for fault detection and predictive maintenance,

Thermal imaging helps to detect problems early – before they turn into costly and potentially critical equipment failures.

MoviTHERM has developed a turn-key, integrated MCM System solution. This integrated system has been designed to address the specific needs of industrial MCM installations. Using a combination of advanced thermal imaging and proven, off-the-shelf components, the MoviTHERM Machine Condition Monitoring (MCM) System provides a reliable way to detect problems early —

The World's Sixth Sense®

The MoviTHERM Machine Condition Monitoring (MCM) System provides a reliable way to detect problems early

FLIR FC-Series R

The FC-Series R features on-board, non-contact temperature measurement capabilities for fire detection, safety, and thermal monitoring of substations, waste disposal, and valuable equipment. FC-Series R combines state-of-the-art image detail and on-board video analytics. FC-Series R provides reliable detection and flexible alarming options by email, web and mobile apps, edge image storage, digital outputs, or VMS event notifications.

FLIR A310

Fixed-mounted thermal imaging cameras like the FLIR A310 can be installed almost anywhere to monitor critical equipment and other valuable assets. It helps to safeguard production plants and measures temperature differences to assess the criticality of a given situation. This allows users to see problems before they become costly failures, preventing downtime and enhancing worker safety.

FLIR NVR – Your window into the Invisible

The FLIR Network Video Recorder (NVR) displays the live video feeds from the FLIR thermal cameras on a video display screen. In addition, the NVR can be configured to display on-screen warnings and alarm indications. With the Video Archiving function enabled, users can save several months of video on-board, for historical review and issue analysis. Add an Internet connection to the NVR, and the monitoring system can be accessed from anywhere in the world using the FLIR Cloud technology. Alarms and live views can even be consulted remotely, using a PC, Mac, Android, or Apple iOS device running the free FLIR Cloud app.

FLIR NVR (Network Video Recorder)

before they turn into costly and potentially critical equipment failures.

Intelligent I/O Module – MoviTHERM MIO-AX8-7

MOVITHERM MIO – THE INTELLIGENT I/O

MoviTHERM's MCM system is built around the MoviTHERM MIO Intelligent I/O module. This module processes the temperature data from thermal imaging cameras and updates the analog (4-20mA) and digital (relay) outputs in real-time. Using an advanced embedded architecture, the MIO can drive audible alarms, warning lamps, auto-dialers, SMS message generators, data-loggers or any other standard industrial device — all without a dedicated PC

or PLC. The built-in browser-based configuration tool simplifies system set-up and tuning, so you can configure and deploy your MCM system in minutes, rather than hours.

FLIR AUTOMATION CAMERAS

The MoviTHERM Machine Condition Monitoring Solution is compatible with a number of FLIR thermal imaging cameras.

FLIR AX8

The FLIR AX8 is a thermal sensor with imaging capabilities. Combining thermal and visual cameras in a small, affordable package, the AX8 provides continuous temperature monitoring and alarming for of critical electrical and mechanical equipment. The AX8 helps users guard against unplanned outages, service interruptions, and equipment failure. The AX8 measures only 54 x 25 x 95 mm, making it easy to install in space-constrained areas for uninterrupted condition monitoring of critical electrical and mechanical equipment.

UNLIMITED INTERFACING POTENTIAL

MoviTHERM's Machine Condition Monitoring solution connects to warning lights, audible alarms, auto-dialers, PLC controllers — any type of electrical or control device you can imagine. It provides the intelligent sensor capabilities, Built-in Operator Interface/video wall, and data archiving capabilities in a clean, well-organized package.

For more information about thermal imaging cameras or about this application, please visit:

www.flir.com/automation

FLIR Ax8

FLIR FC-Series-R

FLIR A310