

StatusCheck™ Wireless Condition Monitoring System

TIMKEN

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Fan & Blower Applications Case Study • Fan & Blower Applications Case Study • Fan & Blower Applications Case Study



Downtime Reduced, Dollars Saved

Customer
Midwest forging manufacturer
United States

When a Midwest forging manufacturer, a producer of control arms and steering knuckles, realized the machinery they were using in their bag-house area was causing unscheduled downtime, they turned to Timken's predictive maintenance program for a solution.

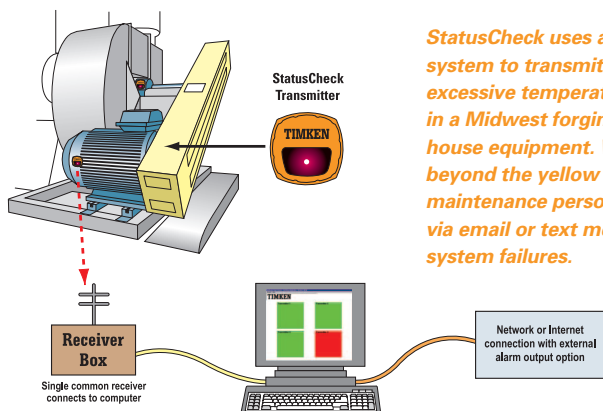
Problem
The company encountered unscheduled plant shutdowns in efforts to remain compliant to environmental regulations.

The Midwest forging manufacturer, like other manufacturing companies, uses purification equipment to control the amount of metal, debris and dust particles being released into the environment. In efforts to remain in compliance with environmental regulations, the company was using a sensor that automatically shuts down its entire plant when there is an excess of contaminants remaining on its filtering bags after air ventilation. Although this sensor has helped this 10-year old plant meet EPA standards, it has caused a negative impact in its production. Since its presence, the company has been accruing unnecessary operating costs and is unable to reach its uptime potential.

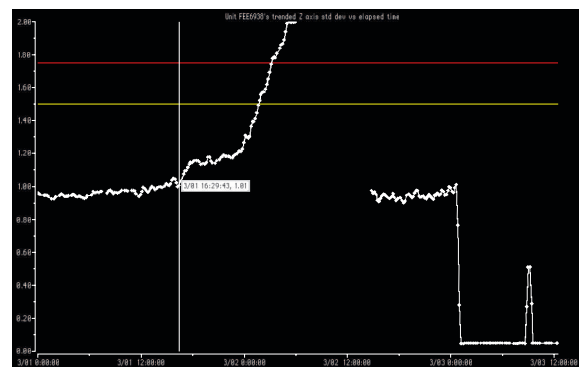
Results
A Midwest forging manufacturer saved over \$1 million after avoiding nine unplanned shutdowns and unnecessary environmental violation by using Timken StatusCheck.

In July 2006, the company purchased Timken StatusCheck™ to transmit vibration and temperature data to monitor conditions of the bag-house fans. With this unique wireless system, the Midwest forging manufacturer is alerted of excessive vibrations and temperatures so the company can arrange scheduled equipment repairs and avoid costly unplanned downtime.

"StatusCheck has helped us significantly improve our operating efficiency, and the impact on our profitability is clear," said a vice president of manufacturing for a Midwest forging manufacturer. "We are so pleased with the results of using StatusCheck that we are considering installing it in other plants in the United States."



StatusCheck uses a computerized system to transmit warnings of excessive temperatures and vibrations in a Midwest forging manufacturer bag-house equipment. When levels chart beyond the yellow and red baselines, maintenance personnel are notified via email or text message of potential system failures.





The StatusCheck condition monitoring system is a unique wireless system designed to detect excessive levels of temperature and vibration that could lead to overheating and breakdown of critical equipment.

Commonly, when a bearing, gear or other critical machine element becomes worn, contaminated, damaged or is lacking lubrication, the component and/or the machine itself will experience an increase in temperature and vibration. The StatusCheck system can accurately sense and report these increases. This allows you to take corrective action prior to failures – helping to prevent machine damage, expensive repairs and prolonged downtime.

StatusCheck is offered in two versions: the standard unit and an intrinsically safe version. The intrinsically safe version comes with its own battery and accompanying circuitry that is incapable of creating a spark that could ignite flammable gas, helping customers ensure a safe and productive work environment.

The StatusCheck transmitter is self-contained with its own internal power source, electronics and sensors. It attaches directly to the outer frame of a machine and uses wireless RF communications to transmit vibration and temperature readings from the machine.

With this system, multiple StatusCheck transmitters (up to 100) can be in use on one or more machines, all of which send signals back to a common central receiver. This receiver is connected to a PC to display the data and Timken StatusCheck software displays real-time data, logs information and triggers alarms when thresholds are exceeded. Alarms can generate e-mails that can be routed to pagers, cell phones or personal digital assistants (PDAs) for maintenance notification.

For more information on StatusCheck or other Timken sensor and condition monitoring options, contact your Timken sales representative.

Features

- Wireless configuration
- Flexible software with adjustable alarm thresholds
- Dual mounting (magnetic or threaded)
- Spring-loaded temperature probe
- Two-axis vibration detection
- Measures ambient temperature
- Industrial-strength packaging
- FCC approved

Benefits

- Economical solution for critical assets, (i.e., fans, pumps, motors and gearboxes)
- Easy installation
- Does not interfere with normal machine operations
- Simple interpretation (no vibration analysis training is required)
- Ideal for early detection of problems on steady-state equipment

Operating Conditions

- Ambient temperature up to 185° F (85° C) at point of transmission
- Measuring temperature up to 450° F (232° C) at tip of probe
- One-half mile line of sight transmitting range
- 50 G peak shock load measuring capacity
- Physical size: 3.85" x 3.85" x 2.30" (97mm x 100mm x 58mm)
- Transmission rate interval: adjustable (four user-selectable rates)
- Battery life up to three years depending on transmission rate
- Receiver data link: RS-232 (50' cable) or RS-485 (4,000' cable)

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Precision Components • Lubrication •
Seals • Remanufacture and Repair •
Industrial Services

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