

Air Fan Health Monitoring for Improved Reliability, Performance, and Decreased Maintenance Costs

BENEFITS

- Smart Wireless solutions easily and cost-effectively enable visibility into the health of air fans and motors
- Trending air fan and motor vibration alerts of potential problems before leading to an unplanned shutdown or environmental incident
- Increased unit utilization and project quality
- Reduced maintenance and SH&E costs



CHALLENGE

There are scores of air cooled condensers in a refinery operating on a continuous basis. From condensing the crude column overhead vapor to the final cooling of the refined products to storage, proper air cooled condenser operation is essential to refinery operation. Even though the large duty air cooled exchanger services are installed with multiple bays, a sudden air fan failure typically results in a process upset due to the sudden drop in heat removal from the process. In some cases air fan failure can result in hot material being sent to the storage facilities resulting in tank damage, and leading to a hazardous material release and possibly a fire.

SOLUTION

Adding wireless instrumentation to regularly monitor the air fan and motor is economical and easy to implement. By monitoring and trending the air fan and motor vibration, operators have a better view to the condenser health and can improve safety and process operations. In addition to monitoring air fan and motor vibration, wireless temperature measurements can be installed in existing plugged thermowells to allow operations to effectively monitor exchanger performance using Emerson's Smart Wireless solutions.

RESULTS

Smart Wireless solutions give operators increased visibility into the health of air fans and motors for improved unit utilization and consistent product quality. Trending air fan and motor vibration alerts operators of potential problems before leading to an unplanned shutdown or environmental incident, thus reducing maintenance and SH & E costs.

AIR FAN HEALTH SMART WIRELESS STARTER KIT

Monitoring rotating equipment health has never been easier. Emerson has developed a complete wireless solution ideally to monitor air fan and motor health that you can order today. The Air Fan Health Smart Wireless Starter Kit includes the following components:

Field Instruments

You can start with the wireless vibration transmitter then add wireless temperature measurements that satisfy the needs for the exchanger service.

Gateway

A secure, robust Smart Wireless Gateway.

Configuration and Asset Health

AMS® Device Manager predictive maintenance software delivers powerful diagnostics from your wireless devices. Easily manage your wired and wireless networks from a single application.

Services

Smart Start™ Services help you with your first startup, including full network health assessment to ensure robust communications plus verification of device functionality through your chosen output (Modbus, OPC, Ethernet, etc.), with the alerts properly configured. Emerson's technician will not leave the site until the wireless network is successfully communicating with your control system – connectivity of your network guaranteed!

Expansion is Easy and Cost Effective

Start with your critical air cooled exchanger services and add other air fans and rotating equipment such as process pumps and motors at your own schedule with additional field devices using the same gateway and asset health software.



The Air Fan Health Smart Wireless Starter Kit may include: CSI 9420 Wireless Vibration Transmitter, Rosemount® 3051S Wireless Temperature Transmitter, Smart Wireless Gateway, and AMS® Device Manager.



WirelessHART

WirelessHART™ encompasses evolutionary enhancements that build on the solid foundation of HART technology used in more than 24 million installed devices worldwide.

www.EmersonSmartWireless.com/FieldKit

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