DCO SYSTEMS
3 GLOBAL BUSINESS PARK, WILKINSON ROAD,
CIRENCESTER, GL7 1YZ. UNITED KINGDOM

+44 (0) 1285 359059
WWW.DCOSYSTEMS.CO.UK
INFO@DCOSYSTEMS.CO.UK

STEAM TRAP MONITORING SOLUTIONS

Our wireless steam trap monitoring solutions enable remote monitoring of steam trap performance with real-time notifications and alerts for performance and safety issues. Integration with our cloud-based dashboard, analysis and reporting services provides an “out of the box” solution.

BENEFITS

Monitoring of the physical parameters of a steam trap is key to understanding its performance. Our steam trap monitor provides real-time performance measurement and integration with analytics that enable you to act upon changes in performance – both on short and long timescales.

MONITORING, ALERTING AND MAINTENANCE

Every trap will have specified (as designed) a behaviour model and a corresponding real-world performance envelope. Detailed monitoring permits one to be mapped onto the other, building up a picture of the real-world performance of the device. Rapid changes in performance can be indicative of localised or remote failure, while change over time can provide indication of degradation needing to be addressed by maintenance.

Remote temperature sensing probes permit (at a minimum) the steam and condensate sides of the trap to be monitored. Temperature monitoring provides the most immediate and easily interpreted assessment of the performance of the trap – particularly the identification of traps that are either failing to pass condensate properly or are passing an unexpectedly high level of steam.

Onboard precision vibration and orientation sensing enable monitoring of movement on fine and large scales indicating internal mechanical failures or external problems such as water hammer.

Acoustic sensing permits identification of problems local to and adjacent to the monitor, such as high velocity steam and hammer in pipes that may not even be directly connected to the trap being monitored.

WORKFORCE OPTIMISATION

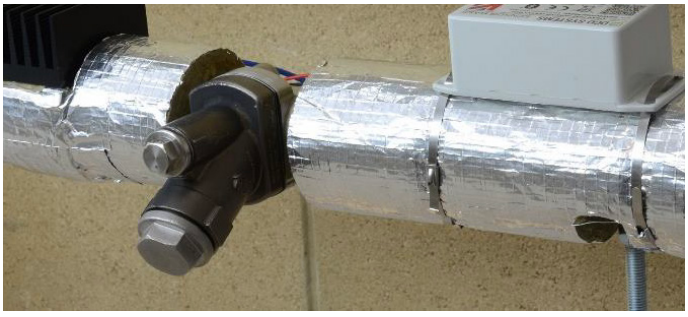
For many steam users the pool of engineers available is a significant constraint on their ability to manage and optimise their systems. Monitoring permits more effective use to be made of those engineers.

The elimination of manual measurement, often a tedious and repetitive task undertaken by qualified mechanical engineers, greatly reduces the burden on them and frees them to concentrate on analysis and improvement work more suited to their skills and experience.

The introduction of consistent, regular data points provides the foundation for ensuring that engineering staff are deployed where they are needed, when they are needed. Predictive maintenance permits much more effective use to be made of the pool of engineers by ensuring they minimise unnecessary travel and maximise the work they can undertake while at a given location or site.

TRULY WIRELESS

Steam trap monitors are available with integrated energy harvesting capabilities to remove the need for connections to power and already support wireless transmission to give you a “true wireless” capability.



WHOLE SYSTEM PERFORMANCE

Working together our monitors can be used to identify the large-scale performance of a system that includes steam traps. Individual traps can detect issues such as water hammer but the synchronised collection across multiple traps permits localisation of such problems and the means to determine root causes and sources.

The introduction of whole system monitoring provides engineers with the data they require to fully understand the performance of the systems for which they are responsible. Even recently installed systems have many physical parameters that may not have been monitored because of the high cost of traditional sensors and monitoring equipment. Legacy installations may never have been instrumented to the extent desired and may at best still be reliant on paper charts and systems that have no ability to log data over time or record it in a way that is useable in other applications.

AUDIT AND MANAGEMENT CHANGE

Auditing of change is crucial for real-world environments. Processes involving stream are often complex and contain a wide range of equipment, often maintained and serviced by different vendors and engineering teams. The extensive data our monitors collect enables identification of changes to your system and the creation of performance audit trails prior and post any changes made to your system or installed equipment.

CONFIGURABLE REPORTING

Data is collected regularly and transmitted to our cloud platform for storage, analysis and alerting purposes. Default reporting intervals are 15 minutes but can be configured up or down as required, to second-by-second reporting if necessary. Intelligent on-board assessment of their power budget enables our devices to automatically adjust their reporting intervals dependent upon requested bounds and the level of activity they see in the equipment that they monitor.

EXTENDED SENSING

Our devices support additional plug-in sensing options over and those integrated into the standard device, allowing for extension of the number and type of physical parameters that can be monitored. Additional electrical measurement, environmental condition and physical sensing options are plug-and-play options for our standardised sensor bodies.

INTEGRATION

In addition to the parameters that they measure themselves our sensor modules support integration with devices and sensors that you may already have installed. Optional plug-and-play integration modules permit integration with 0-20mA, 4-20mA, HART, RS- 485, EMS, Modbus and protocols overlaid on Ethernet or TCP/IP links.

Two examples of the type of the steam traps monitored by our solution: