Honeywell
THE POWER OF CONNECTED | Connected Plant

Control Performance Monitor

Product Information Note

In modern process manufacturing plants a strong correlation between the performance of process control assets and the financial performance of the business is well established.

Honeywell Connected Plant Control Performance Monitor uses a condition-based maintenance methodology that automatically and continuously monitors all process control assets, detects and prioritizes problems according to their impact and notifies personnel to take appropriate action.

Available as on-premise or cloud-based, the solution is designed to integrate with existing plant maintenance business processes, providing stakeholders with the knowledge needed to carry out specific job functions in control maintenance work processes.

The Control Performance Challenge

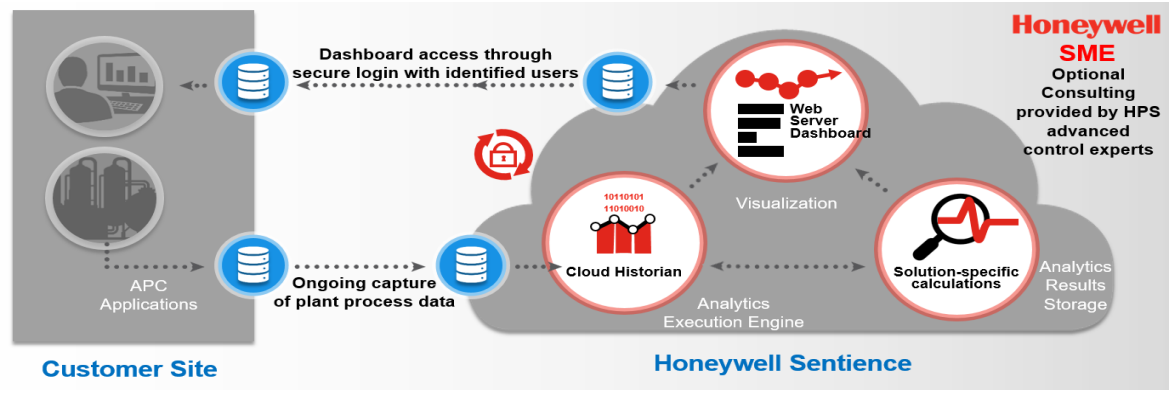
Today's control professionals tasked with ensuring the peak performance of hundreds or even thousands of control assets like PID controller and MPC applications have a lot on their plate. Control Performance Monitor helps meet this challenge head on, providing functionality that enables the user to rapidly scan all of their control assets, and allows them to focus on ones that are under-performing. Furthermore, Control Performance Monitor provides an integrated work flow, diagnostics, and guidance to help restore the control asset back to the desired level.

By intelligently identifying and reducing unwanted control loop variability, plant personnel can focus engineering and control maintenance on priority problems and sustain long term control improvements.

Benefits

- *Cut overall variability in half*
- *Increased throughput (1-3%)*
- *Improved energy savings (1-5%)*
- *Improved product quality*
- *Reduced analysis time (25-50%)*

The use of Control Performance Monitor in our own Honeywell Specialty Materials Plant delivered annual refrigerant production increase valued over $1M.



Cloud Deployment Model

Solution

Control Performance Monitor is a control performance improvement solution that identifies the causes of poor control at all levels of the plant. Individual control assets are depicted with tree mapping technology providing an information-abundant visual interface that allows users to monitor and assess all control assets at a facility in a single view.

Key Differentiators

- Proven Technology for over 20 years
- Cloud-based option: Leverage expertise across remote facilities
- Expert Guidance through Workflow and Decision Support
- Easy diagnosis with intuitive displays and reports
- Scalability: One unit through multiple site monitoring
- Most Accurate Algorithms
- Metrics completely focused on action
- DCS agnostic

Key Capabilities

Tree Mapping Technology

Control Performance Monitor takes advantage of tree mapping technology that uses shape, size, color, and grouping of geometric shapes to impart key performance information related to individual control assets.

Tree Map of Regulatory Control Performance

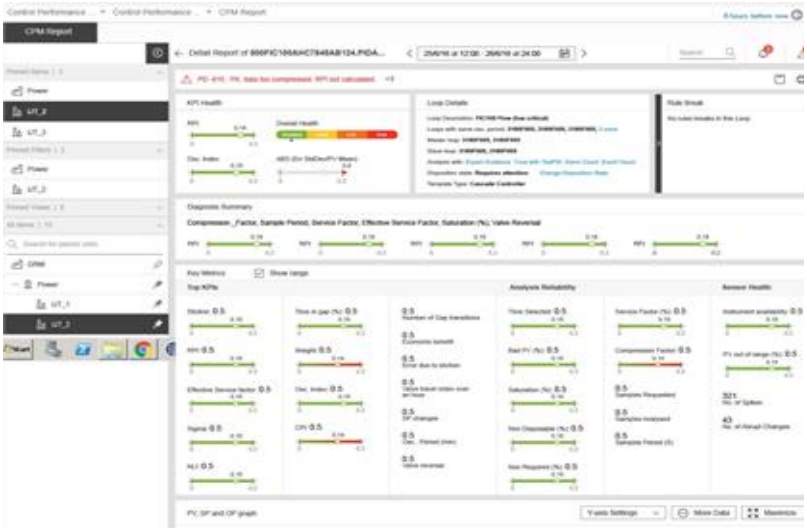
Cloud-based Option

With the cloud-based version of Control Performance Monitor, multiple data sources can be referenced simultaneously at sites with multiple DCS or historian platforms. The data is integrated in a site wide historian through which it goes into a Honeywell Sentience® Cloud infrastructure through a secured Cloud connector.

The entire solution is hosted on the Sentience® platform from where information flows back to the user through an application gateway.

Collaborative & Workflow-Driven

A successful monitoring solution like Control Performance Monitor conforms to the user's workflows. It provides a flexible environment that promotes proactive maintenance practices by allowing the user to personalize the space, set alert thresholds, filter data, etc. through a web interface.



PID Detailed Report

Intuitive visualizations within the interface provide clear indications of performance with easy drill-down into problem areas, leveraging the wide array of analytical tools.

Expert Guidance combines the user's knowledge of the process with years of process control engineering knowledge and workflow to walk through root cause problem analysis and provide the action required to fix a problem.

Finally, configurable email notification services help assign responsibility for problem resolution and track the status and outcome of each problem.

PID Monitoring Features

PID Analysis

- Cross Spectrum: View the frequencies and magnitude of interaction between two control loops.
- Coherency: Troubleshoot interactions between the master and slave controllers in a cascade arrangement.
- Cross Correlation: Measure the similarity between two signals. Also used to determine if a controller has an appropriate amount of feed forward action.

Performance Assessment

Performs data preparation and calculates basic loop performance measures such as basic statistics, service factors and controller saturation. Benchmarks performance and computes advanced loop performance measurements. Assessments may include:

- loop performance index
- relative performance index
- measurement of impulse response
- frequency response
- auto correlation
- settling time benchmarks
- an oscillation index, which identifies and troubleshoots disturbances that cause loops to cycle by computing the oscillation strength and period for a set of variables

MPC Monitoring features

Model Analysis

Evaluate model-predicted properties: stability analysis, interaction analysis, and prediction error.

Trend Analysis

View the relationship between MVs and CVs, and statistics such as high and low limits, steady-state target and status.

Constraint Analysis

Calculates service factor, percentage of time that MVs are saturated at their limits, percentage of time that the CV violates its limits etc.

Support Services

Control Performance Monitor programs using the cloud-based offering may optionally include Subject Matter Expert (SME) services. SME is a domain and solution expert who would have near real time view of all control asset performance and would provide key recommendations to customers on key issues and future improvement areas.

For More Information

Learn more about how Honeywell Control Performance Monitor can fit your operations, visit www.honeywellprocess.com or contact your Honeywell Account Manager.

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