Honeywell’s Profit® Controller application allows easy implementation of multivariable control and optimization strategies. Profit Controller’s proven and robust algorithm provides safe control of complex and highly interactive industrial processes with the unique ability to maintain superior process control even with significant model mismatch.

Honeywell’s patented Profit Controller application includes the necessary tools to design, implement and maintain multiple-input/multiple-output (MIMO) applications.

Profit Controller utilizes a dynamic process model to drive maximum value through the following steps:

- Predict future process behavior
- Control the process using the minimum manipulated variable movement necessary to bring all process variables within limits or to set points
- Optimize the process with the remaining degrees of freedom to drive the process to optimum operation

Benefits:

**Optimum Control Performance & Enhanced Robustness**

The configurable funnel-based approach to range control delivers enhanced robustness versus target-only approaches, while providing flexibility in control performance. Independent feed-forward and feedback control tuning provides optimum control performance for changes in both control targets and process disturbances.

**Common Level 1 to Level 3 Solution**

Experion PKS R500 will include Experion Profit Controller which extends the reach of Profit Suite into L1 & L2. Profit Suite enables common engineering & operations interfaces regardless of where the algorithms are running. Engineers using the Profit Suite Engineering Studio can configure controllers in the C300, ACE, and in the Experion Application Server at L3. Likewise, operators can operate all controllers in a common view within Profit Suite Operator Station.

**Best-in-Class Operator Interface**

Profit Controller provides unmatched man-machine interface capabilities by offering both Profit Suite™ Operator Station and the HMIWeb APC Shape Library. Providing maximum flexibility in the design of the user environment and workflow integration, the end result is a net increase in operator effectiveness, higher application uptimes and more appropriate utilization of your plant’s APC investment.

**Easy Maintenance**

Range control design enables easier tuning and enhanced performance. Robust control design reduces tuning needs. In addition, full APC monitoring is available with Control Performance Monitor (CPM) for model predictive control (MPC).
Features:
Product Value Optimization
Profit Controller’s engine employs both a linear and a quadratic objective function to provide the user with maximum flexibility in implementing optimization strategies. All application variables can be maximized, minimized or specified as desired targets that will be honored under optimization conditions.

True process economics can be directly entered into the controller for both independent and dependent variables. This technique, commonly known as Product Value Optimization (PVO), allows the overall economics of the process to be optimized by dynamically determining the best economic operating condition of the unit based on input variables such as product prices, feed prices and utility costs. This technique has also been successfully applied in optimizing product yields within quality constraints to generate the best mix of on-spec products.

Honeywell’s Layered Optimization Solution
Profit Controller provides a perfect framework for implementing high-level optimization objectives by linking seamlessly with Profit Optimizer. Profit Optimizer delivers additional benefits by providing dynamic unit-wide, multi-unit or site-wide rigorous process optimization for most industrial applications, even managing lag time as material flows through each process unit. When significant nonlinearities exist, Profit Suite allows integration with a rigorous process model to calculate the desired target conditions of the process in the controller objective function, taking full advantage of the process response gradients to reach an optimal solution faster.

Profit Controller Improves Production
Multivariable control typically results in a 50 percent reduction in the standard deviation of lab-measured product quality values. This improvement in product quality is derived from improved process stability, fewer process upsets and more consistent control across operator shifts.

System Requirements
System & operating system requirements for Profit Controller are kept up to date on www.HoneywellProcess.com on the support tab – look for the Profit Suite Update Matrix.

Training Services
Training courses covering Profit Controller theory, concepts and implementation are available through Honeywell’s Automation College. On-site courses are available upon request. Visit www.automationcollege.com for more information.

For More Information
Learn more about how Honeywell’s optimization options, visit our website www.honeywellprocess.com/software or contact your Honeywell account manager.

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