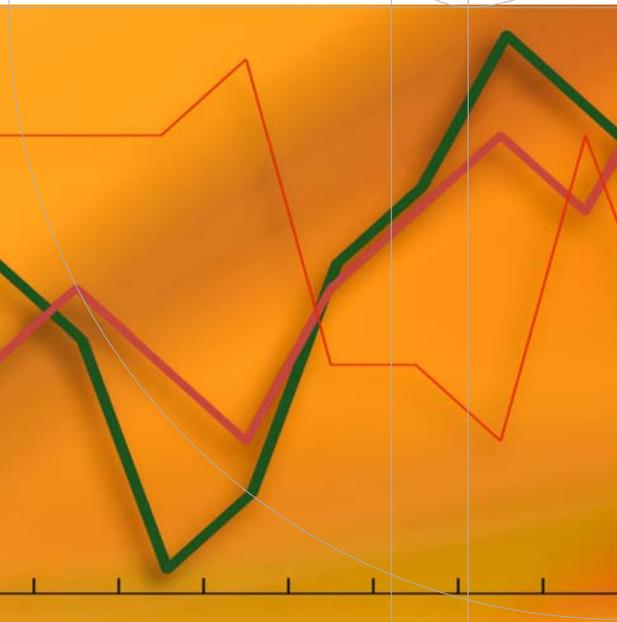




**SIEMENS**

Building Technologies

Adaptive Control for  
APOGEE® Building  
Automation





Siemens Building Technologies, Inc. has a long history of forward-thinking building systems solutions. Adaptive Control is a continuation of our commitment to helping leverage the investments you have made in building automation technology in order to improve the performance of your facility.

For many years, Proportional, Integral, Derivative (PID) control has been the industry standard for commercial and industrial controls. However, effectively and accurately tuning PID loops often proved time-consuming and difficult, and required seasonal adjustments. As a result, many are not fully optimized for a particular facility's needs.

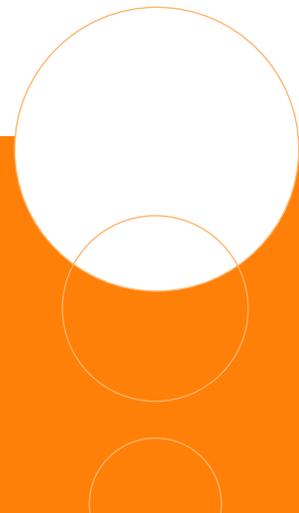
The new, sophisticated Adaptive Control capability provides more efficient, robust, fast, and stable control compared to traditional PID. Adaptive Control automatically adjusts to fluctuations in mechanical systems, loads, and seasonal changes to deliver superior performance in variable environments—all while minimizing error, oscillations, and actuator repositioning. Siemens built this new technology on the Model-Free Adaptive (MFA®) control software, a leading-edge and well-established industrial control algorithm from Cybosoft® that is exclusive to APOGEE building automation. Enhance your existing APOGEE building automation system by implementing adaptive control in your facility.

## Precise performance delivers many benefits to your facility

Adaptive Control has been proven to outperform PID at existing customer sites. On average, we have seen:

- 78% decrease in total actuator travel
- 64% decrease in number of valve and actuator repositions
- 23% decrease in error from set point

These reductions lead to an expected increase in the lifespan of the actuators and valves as well as reduced cost for customers.



By constantly adapting to conditions, Adaptive Control provides consistent control performance all year round, and results in the following benefits.

### Energy savings

The Adaptive Control software provides precise performance and accurate control that results in energy savings for your facility. Better-tuned loops lead to both reduced cycling and reduced offset from set point—which means you realize energy savings.

### Increased valve and actuator life expectancy

Adaptive Control reduces cycling-induced wear and tear on valves and actuators, increasing the life expectancy for these components. You may also realize a reduction in repair, replacement, and maintenance costs of end devices.

### Improved tenant comfort and satisfaction

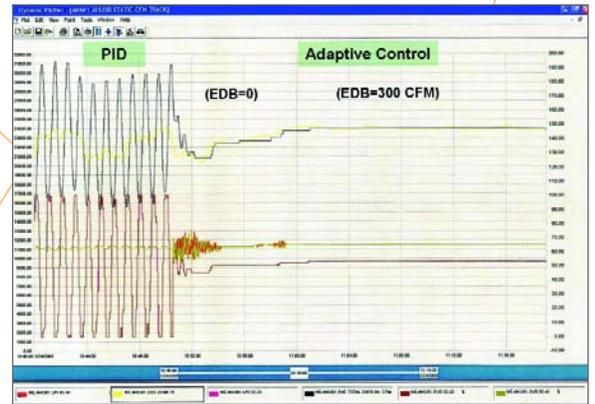
More precise temperature control, especially during seasonal change-overs, improves tenants' comfort levels in facilities with Adaptive Control technology.

### Increased staff productivity

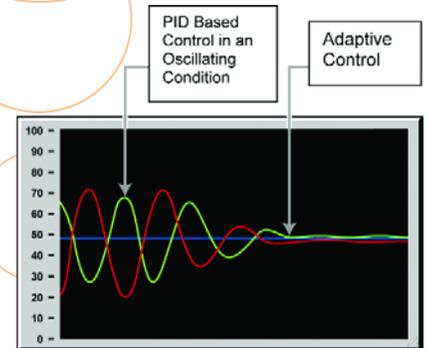
Adaptive Control eliminates the need for seasonal retuning because it continuously and automatically adjusts to system changes, freeing up staff time for other priorities within the facility.

### Fast and accurate loop tuning of complex systems

The Adaptive Control for APOGEE is built on a foundation of technical superiority that delivers fast and accurate loop tuning in even the most challenging systems. Adaptive Control can easily handle non-linear loops and such complex applications as multi-output supply temperature control.



Actual comparison data between PID and Adaptive Control for air flow control at air handler, displayed in Dynamic Plotter at customer site.



## Enhance system control, improve facility performance

Contact your local Siemens Building Technologies branch office to discuss how this new Adaptive Control technology will improve the performance of your building automation system.

Helping your building work for you.™

**Building Technologies**

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