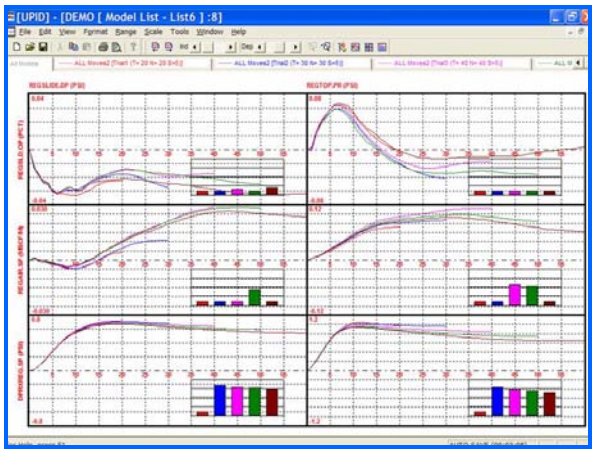
[UPID]

Overview

UPID is an exciting new product that allows you to develop models for both operator training simulators and advanced process control applications in ways never before possible. UPID uses newly patented technology developed by Dr. Charles Cutler, the creator of the Dynamic Matrix Control algorithm and one of the pioneers in advanced process control. By removing the dynamics of the regulatory PID controllers, the models can be reconfigured in a multitude of ways. With UPID, it is possible to adapt a DMC controller model to a new regulatory control configuration without the time and expense of retesting the unit!



QUALITY ESTIMATES FOR EACH STEP RESPONSE CURVE

Features

Change Regulatory Control Configuration Quickly. UPID allows you to test the unit in one configuration and control the unit in another configuration. If you retune a loop or change the configuration of a PID controller, your model will change, many times quite drastically. In the past, reconfiguration required a retest to build a new model. With UPID, the reconfiguration can be performed in software, sparing you the time and cost associated with an expensive plant test.

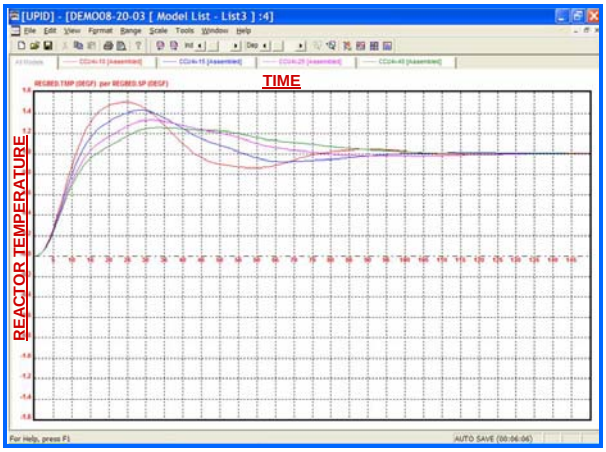
Build Operator Training Simulations. When paired with Cutler Technology Corporation's **CTC-Sim™** product, UPID may be used to develop operator training simulations at a fraction of the price of other simulators. By using the plant test data you already have, you can build an operator training simulator with much less engineering manpower than a differential-equation-based simulator.

Compatible with MPC type Models. UPID was originally developed jointly with Aspen Tech and is compatible with MPC type Models, allowing those familiar with that software a quick and easy transition.

Designed for use with [ADMC] ADaptive Multivariable Controller™ - UPID creates the model files used in ADMC. UPID can build either Open or Closed Loop models for ADMC.

Licensing

UPID is licensed on a process unit basis in three different ways: UPID for Advanced Process Control (UPID-APC), UPID for Simulation (UPID-SIM), and UPID Special Edition (UPID-SE). The operation of the software is the same for all three versions.



FOUR STEP RESPONSES FOR FOUR INTEGRAL TIMES

UPID for Advanced Process Control (UPID-APC). UPID-APC is licensed to produce models for use in model predictive controllers such as Aspen Tech's DMC plus controller and CTC's ADMC.

UPID for Simulation (UPID-SIM). UPID-SIM is licensed to produce model files for use in operator training simulators such as Cutler Technology Corporation's CTC-Sim product.

UPID Special Edition (UPID-SE). UPID-SE is licensed to allow the user full functionality of the UPID technology, with the exception that the files produced can be used only in conjunction with a UPID licensed process. This product is intended primarily for central engineering staff that supports many process units with UPID licenses.

Benefits

Keep Your Controllers Up and Running in Tip-Top Shape. When the regulatory controllers are retuned, the plant responses change as well. While the controller may continue to operate, the model no longer accurately represents the process which means you are not receiving the maximum benefits from the controller.

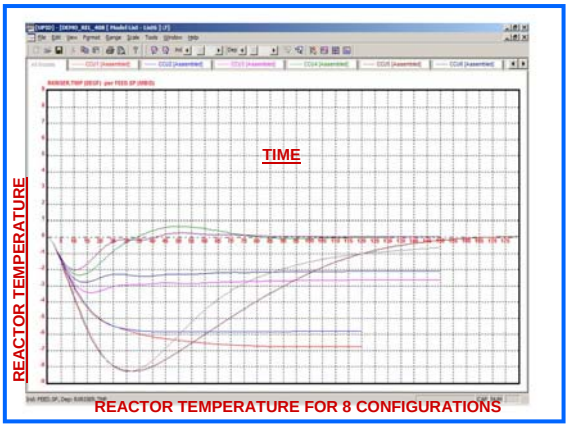
Avoid Costly Retests. Decide to change the configuration of your regulatory system? Time to retest! But with UPID, you can perform the configuration changes in software, saving the expense and hassle associated with plant step testing.

PERMUTATIONS FOR THREE CONTROLLERS

	Riser Temp	Regen Temp	WGC
1	manual	auto	auto
2	manual	manual	auto
3	manual	manual	manual
4	auto	manual	manual
5	auto	auto	manual
6	auto	auto	auto
7	auto	manual	auto
8	manual	auto	manual

number of controllers

Permutations = 2



EIGHT STEP RESPONSES FOR THREE CONTROLLERS IN AUTO OR MANUAL

Build Operator Training Simulators at Minimal Cost. With the success of advanced process control, the operators only occasionally control the unit. With the reduction of time controlling the unit, operators skills decline. This effect makes operator training essential to operate the unit when the advance controller is off. UPID and **CTC Sim** allow you to develop operator training solutions in a timely and cost-effective manner.

Cutler Technology is launching a new marketing campaign to offer current users of MPC Controllers a field proven superior product that can use their existing models. Users can now take their existing models and configure them directly into APCX1. A typical MPC type model requires just a few days to configure into APCX1. CTC's APCX1 Web Server Edition is up to 10 times faster than previous MPC's and includes a Data Historian output feature that exports data to most "process watch" software packages.

APCX1 is actually an operating mode of the ADMC controller. Clients have the option to change the mode of the APCX1 controller to Adaptive DMC by upgrading their model in the future. APCX1 has a choice of 3 operating modes. The first is APCX1 mode, the second is Hybrid Model Mode (a combination of a MPC type model and an ADMC model) and the third is a pure PV Model or ADMC mode.

The APCX1 mode of the ADMC Controller is Dr. Cutler's perfected MPC type Algorithm. Since the 1980's, he has been tweaking the Model Predictive Control algorithm and this is the first major overhaul in years. MPC type controllers are reported to have a market penetration of over 50% worldwide. Most of these controllers are running on a 1990's era MPC algorithm. APCX1 is a complete re-write of Cutler's original MPC Algorithm using modern compilers and software technology. The APCX1 engine is field proven and is currently running on major process units around the world. www.cutler-tech.com

Cutler Technology is not affiliated with Aspen Technology USA.

ADMC & DMCX1 are not Aspen Technology products.

V 9.0