


RSTune and RSLoop Optimizer FEATURE COMPARISON



Feature	RSTune	RSLoop Optimizer
Easy Communications Setup		
Supports these Rockwell controllers: Allen-Bradley MicroLogix™, PLC-5®, SLC 500™, FlexLogix™, CompactLogix™, and ControlLogix™	YES	YES
Supports ProcessLogix™ controllers	NO	YES
Offline control loop simulation		
Allows what-if and performance analysis of current to new settings and the ability to try out new values in simulation without affecting the plant	YES	YES
Offline simulator lets you practice tuning loops offline and provides time simulation of setpoint changes or load upsets	YES	YES
Choose the tuning that is right for your system		
PID tuning optimization for load upsets or setpoint changes (from data collected in auto or manual)	YES	YES
PID Tuning Table summarizes your tests and provides a way to quickly record the results of several loop tests. It tabulates PID parameters, model parameters, RRT, quality of fit, and relative stability index.	NO	YES
Setpoint (Lambda) tuning	YES	YES
Safety factor adjustment for the best tradeoff between response and robustness for your system	YES	YES
RSTune and RSLoop Optimizer automatically choose the best model structure for your process from these options: <ul style="list-style-type: none"> • First order with dead time • Second order with dead time • Second order over-damped with dead time (Imaginary roots) • Integrator with dead time 	YES	YES
With RSLoop Optimizer, you can force RSLoop Optimizer to use any one of these model structures		

Feature	RSTune	RSLoop Optimizer
PV Filter Analysis to find the largest possible filter for your system, which helps you significantly reduce valve wear	NO	YES
Setpoint filter to give good response to both setpoint changes and process upsets	NO	YES
Adjust the control loop for a slow controller sample interval. If your controller is overloaded and unable to run the PID fast enough to get optimum response, enter the controller's actual PID controller sample interval so the best settings can be recommended for your controller.	NO	YES

Analyze your data and tuning parameters

Performance summary window that gives you information at a glance, including performance increase, robustness increase, valve travel index, valve reversal index, and relative response time (RRT)	NO	YES
Process Modeling (up to second order with dead time), including integrators, from open or closed loop data	YES	YES
Robustness plot for determining trade-offs between tight tuning and sensitivity to dead time or gain changes	YES	YES
Simple robustness adjustments by dragging a line on the robustness plot	NO	YES
Process frequency response compared to model	YES	YES
Graphically zoom in, edit, filter, or average your time data	YES	YES
Statistical analysis to help you reduce variability and increase product quality and capacity	YES	YES
 Remove the effects of a process variable filter so that you can see the signal as if it were not filtered	NO	YES
 The Time Line Analysis tool helps you visualize and understand the relationships between the time of each component in the control loop so that you can correct deficiencies and improve the performance of the loop	NO	YES
Add additional trend lines to the faceplate to track other variables against the same faceplate or trend as the setpoint, process variable, and controller output	1	Unlimited
Relative Response Time analysis helps decouple interacting loops and cascades	NO	YES

Feature	RSTune	RSLoop Optimizer
Auto and cross correlation analysis tools allow you to see how loops affect one another	NO	YES
The Power Spectral Density Plot is a powerful frequency analysis tool used to identify potential process equipment deficiencies. The Power Spectral Density graph shows the relative power in the signal at various frequencies.	NO	YES
Report functions create a full report of your loop analysis in Microsoft Word. RSLoop Optimizer also allows you to customize your report templates in Word.	YES	YES
On the time plot, manually set the minimum and maximum process variable and controller output to allow for easy before and after comparisons	NO	YES

Valve Analysis

Valve wear indicators and analysis to help you extend valve life and reduce valve maintenance	NO	YES
The Valve Stiction Wizard helps you diagnose stiction problems to reduce cycling	NO	YES
Valve hysteresis checking for poor or noisy data using manual hysteresis, which allows you to manually choose step times	NO	YES
Automatic valve hysteresis check and methods for reducing hysteresis	YES	YES

Tune Difficult Loops

The Characterizer linearizes your process across the entire range for optimal performance at all production rates	NO	YES
The pH Linearizer converts titration data into an algorithm that can be applied to the input of the process variable signal to ensure that the control loop is linear over the entire range of control	NO	YES
The Histogram plots the statistical spread of your data, displaying a histogram of error, process variable, or controller output. This plot can identify a non-linear process or whether the loop is tuned properly	NO	YES
The Inverse Response (shrink-swell) helps you tune difficult level loops, such as those found in re-boil and distillation column applications	NO	YES

Feature	RSTune	RSLoop Optimizer
Additional Features		
For advanced analysis, specify the maximum data pairs (up to 32,768 points)	NO	YES
Manually zoom in and set display ranges on the time data plot	NO	YES
Performance evaluation bar graphs let you easily compare and evaluate trade-offs in your control loop	NO	YES

Rockwell Software

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