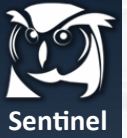




MCL CONTROL



LoopTunerSentinel™

PID controllers loop tuner

www.mclcontrol.com

2021



DESCRIPTION

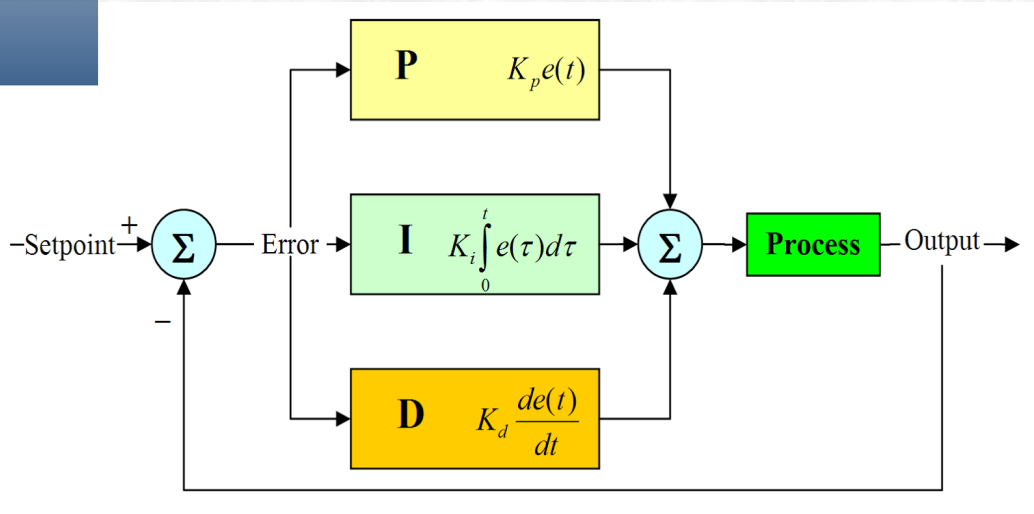
LoopTunerSentinel is a specialized tool for tuning PID control loops in any process industry for any control variable. It Allows to define control specifications for system performance, such as the trajectory of the closed loop process variable. It can be used with existing PLCs in the market, such as Honeywell, Yokogawa, Emerson, Siemens, among others.

Additionally, the **LoopTunerSentinel** can decouple interacting multivariable control loops.

The **LoopTunerSentinel** allows changes to be made to the Set Point in closed loop, to obtain process dynamics necessary to tune the PID controllers.

The operation of a controlled process with PID algorithms can be Optimized using the **LoopTunerSentinel**.

El desempeño de un proceso controlado con algoritmos PID puede ser optimizado utilizando **LoopTunerSentinel**





BENEFITS

Optimizes time, because it suppresses the trial-and-error process by toning the control loops.

Increased Cost-Benefit ratio

It allows to keep the process variables within its control range, which will allow you to have a better quality of the product, optimizing the energy resources of your plant.

Reduces interactions of control loops.

With this tool you can tune the control loops of your process in a multivariable way or implementing the decoupling of the same that interact with each other, thus obtaining a more stable process.

LOOP TUNING SERVICES

MCL Control provides services of Optimal tuning of control loops using the **LoopTunerSentinel** Tool.

Reduction of maintenance cost of control valves

Incorrect intonation of PID control loops can result in control valves not performing properly and subjecting them to faster wear. With the **LoopTunerSentinel**, the tuning criteria can be set optimally and thus avoid having sudden changes in the control valves, thus prolonging their useful life, and consequently having more stable processes



FUNCIONALIDADES

The **LoopTunerSentinel** has features that gives it a great potential as a system for tuning PID controlle .

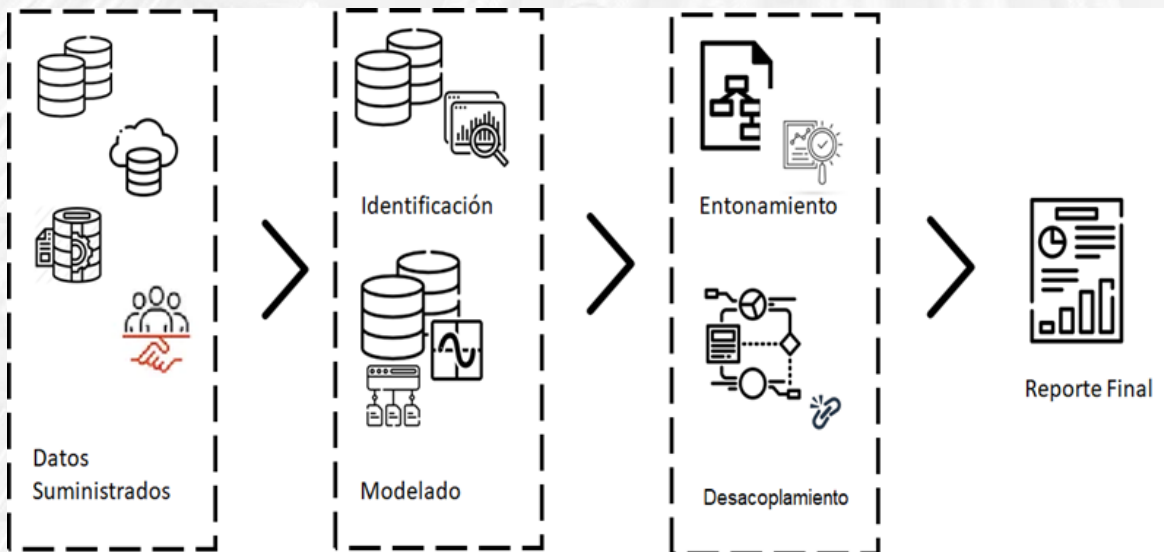
Supply to the client of a procedure to obtain statistically representative data.
Model-based optimization tuning.
Tuning by conventional methods, direct synthesis of the controller and by optimization.
Open-loop and closed-loop process identification for SISO and MIMO systems.
Tuning under servo control specification or regulatory control.
Decoupling of interacting loops in multivariable controllers with or without explicit decoupling matrix.
Execute the closed-loop procedure to check the attunement.
Can perform comparison between different sets of obtained PID parameters.
It has the controller equations of leading manufacturers in the market.
Presents the trajectory of the OP to analyze the behavior of control valves.
Generation of professional reports for the subsequent analysis of the attunements.



ARCHITECTURE

By design, the **LoopTunerSentinel** allows connectivity with PLCs, DCSs or SCADA systems, through an OPC, DDE, etc., protocol.

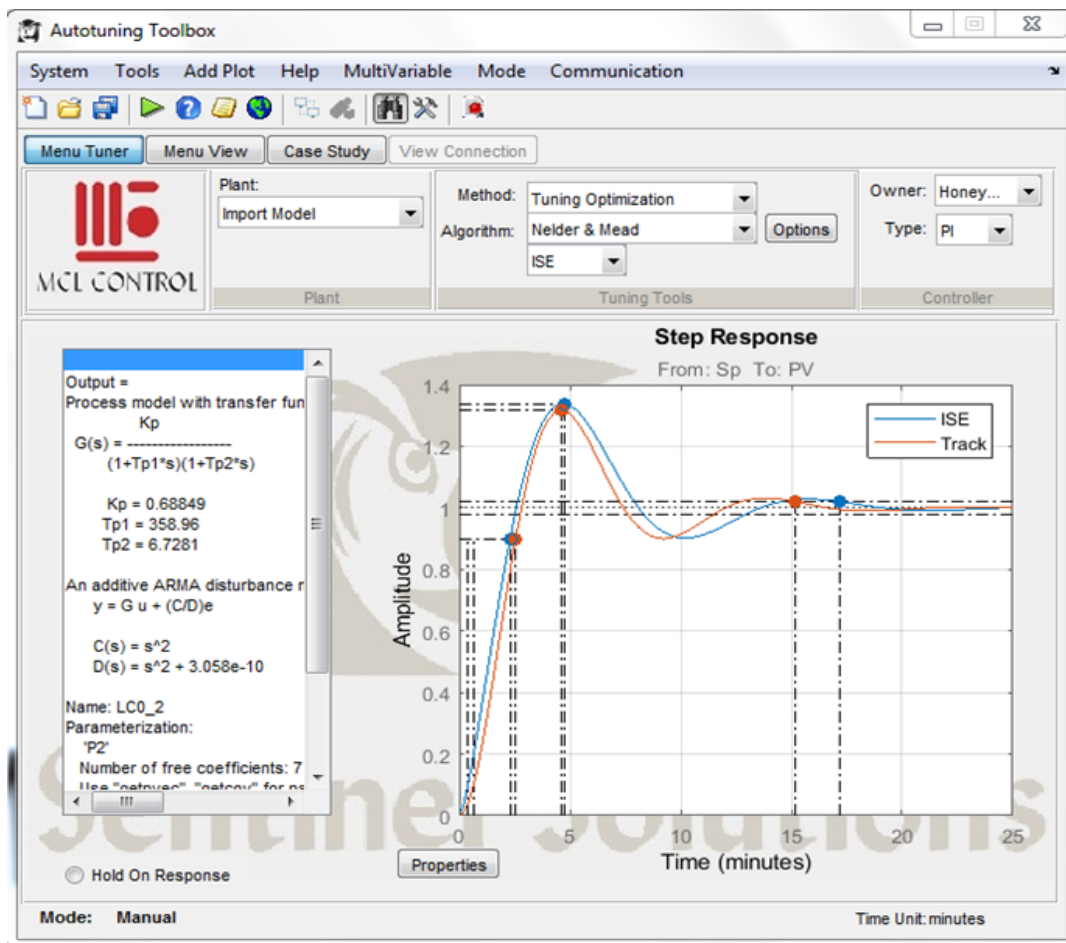
The architecture allows connectivity with commercial simulators through an ActiveX protocol, or newer generation .





HUMAN-MACHINE INTERFACE

The **LoopTunerSentinel** provides a series of standard screens, already elaborated, based on our experience with this type of applications. The screens include options such as user control according to authorization levels, entering events to the control loops to obtain data to identify the process to be tuned, among others recording the data in the format necessary to use it in the identification systems and generating the model. of the process to be tuned, among others.





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