PIDRegulator

This package contains different variations of a PID controller. In addition to temperature regulation, the creation of a self-defined controller is shown, as well as using multiple controllers in a group with set value control, as well as the use of several controllers in one group with setpoint control and an application option of cascaded control. Controllers with multiple control parameter setting variants can be selected to find the optimal parameters for the system to regulate. Online adaptation of the control parameters is available for this purpose. Example classes for evaluating alarms or warning are included.

The ProgManual is a guide for quickly and easily implementing the controller. For more details, see the class documentation.

SYSTEM REQUIREMENTS

Performance Index	A B C D E

Visualization Memory Requirements

Code Size [KB]	211
User Heap [KB]	10
LSE Project Size [KB]	4569
SRAM [bytes]	8

COMPONENTS

Library PIDRegulator
■ Contains all classes of the package for importing or updating existing applications

Add-On
■ TemperatureController

Application Demo
■ Shows the use of package classes on an example

Documentation
■ All class documentation, as well as user and program manual where required

FEATURES

■ PID Controller with various operating modes (automatic, semi-automatic, manual)

■ Interactive and ISA PID models are available

■ Intelligent Anti-Wind-Up and Anti-Starving mechanisms

■ State space step response setting methods (Ziegler Nichols, Takahashi, Cohen Coon, Chien-Hrones-Reswick)

■ Frequency analysis methods (Ziegler Nichols, Relay Feedback, Biased Relay Feedback)

■ Grouping function with set value control

■ Power adaptation with simultaneously activated heating and cooling control or energy-optimized Power adaptation with always only one active actuator (heating or cooling)

SOFTWARE VERSIONS

Design environment	LASAL CLASS 2
Operating system	RTOS, Salamander