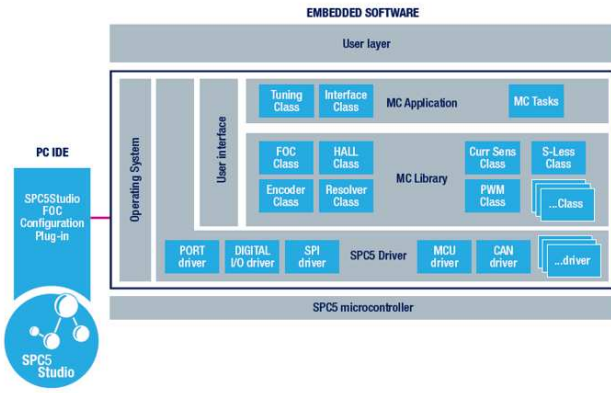
life.augmented

SPC5-MCTK-LIB
Databrief

SPC5 Motor Control Tool Kit FOC Library



Features

- SPC5 BLDC/PMSM FOC library
- Single/Dual motor vector control (FOC).
- Current reading topologies supported: 2 shunt current sensing (on motor phases and inverter legs)
- Speed/position sensors (Encoder, Hall,Resolver) and sensor-less operation (State observer) are supported.
- Speed and Torque control
- Motor control algorithms implemented for specific needs: Max Torque Per Ampere, Flux Weakening and Feed Forward
- Firmware ANSI C, MISRA check compliancy.
- SPC560P and SPC560EL microcontrollers supported
- L9907, L99ASC03G FET driver support
- STGAP1S galvanic isolated single gate driver support for High Voltage traction application
- Motor Control library fully integrated into the SPC5Studio software development environment with graphic configuration
- Compliancy with FreeGCC, Hightec and Green Hills compiler
- Communication with SPC5 Motor Control Live Monitor (LM) to Real-time live monitoring the SPC5 Library Control Variables

Description

SPC5-MCTK-LIB is part of the SPC5 Motor control Tool Kit solution to develop Automotive application for BLDC motor control.
The Library is made of a FOC FW library and a SPC5Studio configurator plugin.
SPC5-MCTK-LIB enables user to evaluate the SPC5 MCU performance in applications driving single or dual Field Oriented Control of 3-phase Permanent Magnet motors (PMSM,BLDC).
SPC5Studio Motor Control Configurator plugin reduces the design effort and time in the SPC5 PMSM FOC firmware library configuration. The users, through a graphical user interface (SPC5Studio), can generates all parameter which configure the library according to the application needs. Moreover, using real time monitor (SPC5-MCTK-LM) user can visualize speed and power on a running motor as well as change directly firmware settings like amplification gain or reference speed.

ORDER CODE	REFERENCE
SPC5-MCTK-LIB	**Evaluation kit integrating**

Document revision history

Date	Revision	Changes
03-July-2017	1.0	Initial Version
25-July-2017	1.1	Small typo correction