*life.augmented*
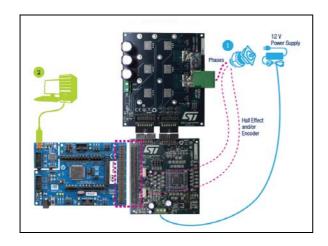
# SPC5 Motor Control Tool Kit for SPC560P and L9907

**Data brief**



## Features

- SPC5 BLDC/PMSM FOC library

- Single motor vector control (FOC)

- Current reading topologies supported: 2 shunt current sensing (on motor phases and inverter legs)

- Speed/position sensors (Encoder, Hall) 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 microcontrollers supported: P-Line

- L9907 FET driver support

- SPC5 Motor Control Live Monitor (LM) to Real-time live monitoring the SPC5 Library Control Variables

- Motor Control library fully integrated into the SPC5Studio software development environment with graphic configuration

- Compliancy with FreeGCC, Hightec and Green Hills compilers

## Description

SPC5-MCTK-01 is the SPC5 Motor Control Tool Kit for SPC560P and L9907 FET driver. It includes HW plus SW kit to develop Automotive application for BLDC motor control. The HW is made of an SPC560P-DISP MCU Discovery board and an EVAL-L9907 board with L9907 and inverter.

The SW part is made of the SPC5-MCTK-LIB PMSM/BLDC FOC FW library, a SPC5Studio configurator plug-in and an SPC5 MC Live Monitor.

SPC5-MCTK-01 enables the user to evaluate the SPC56 MCU performance in applications driving single or dual Field Oriented Control of 3-phase Permanent Magnet motors (PMSM,BLDC).

SPC5Studio Motor Control Configurator plug-in and SPC5 Live Monitor reduce the design effort and time in the SPC5 PMSM FOC firmware library configuration. The user, through a graphical users interface (SPC5Studio), generates all parameters which configure the library according to the application needs. Moreover, using real time monitor (Java Windows OS application provided with the MCTK package) the user can visualize speed and power on a running motor as well as change directly the firmware settings like amplification gain or reference speed.

**Table 1. Device summary**

| Order code | Reference |
|---|---|
| SPC5-MCTK-01 | Evaluation Kit integrating SPC560P-DISP EVAL-L9907 SPC5-MCTK-LIB |

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# 1 Revision history

**Table 2. Document revision history**

| Date | Revision | Changes |
|---|---|---|
| 27-Nov-2017 | 1 | Initial release. |

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