Features

- Single/Dual simultaneous vector control (FOC).
- Motor Profiler and one Touch Tuning for a fast startup of unknown motors.
- Current reading topologies supported:
  - 1 shunt resistor;
  - 3 shunt resistors;
  - 2 ICS (isolated current sensor).
- Speed/position sensors (Encoder and Hall) as well as sensorless operation (State observer, High frequency Injection HFI, On-the-Fly startup for fans) are supported.
- Speed and torque control.
- Wide range of STM32 microcontrollers supported, the full list is detailed in RN0085, available on www.st.com.
- Full customization and real time communication through PC software ST MC Workbench:
  - New project creation starting from the board.
- Motor control algorithms implemented for specific applications like Maximum Torque Per Ampere (MTPA), Flux Weakening and more.
- Firmware ANSI C, MISRA compliant.

Description

ST’s STM32 offers the performance of the industry-standard Cortex®-M core at the service of vector (or field-oriented) control (FOC) algorithms, widely used in high-performance drives.

The STM32 PMSM FOC SDK (STSW-STM32100), which includes the PMSM FOC FW library and ST MC Workbench, allows the user to evaluate the STM32 performance in applications driving single or dual Field Oriented...
1 Ordering information

The STM32 PMSM FOC SDK is available for free, it can be downloaded from STMicroelectronics website www.st.com.

2 Revision history

Table 1. Document revision history

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<tr>
<th>Date</th>
<th>Revision</th>
<th>Changes</th>
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<tbody>
<tr>
<td>14-Feb-2014</td>
<td>1</td>
<td>Initial release.</td>
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<tr>
<td>22-May-2014</td>
<td>2</td>
<td>STM32 PMSM FOC SDK becomes a software package and includes the PMSM FOC FW library and ST MC Workbench.</td>
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<tr>
<td>15-May-2015</td>
<td>3</td>
<td>Updated Features and Disclaimer.</td>
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<tr>
<td>03-Sep-2015</td>
<td>4</td>
<td>Updated Features.</td>
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