



ST7MC Three Phases BLDC Motor Control Software Library Release 2.0

1 Preface

1.1 About these release notes

This is Version 1.0 of the release notes for Release 2.0 of the ST7MC Three-phase BLDC Motor Control Software Library.

These release notes are updated periodically in order to keep you abreast of any problems or limitations found in this release. Check the ST Internet website at www.st.com/mcu to ensure that this is the latest version of these release notes.

Changes in this version of the Release Notes...

New Features

- The library is compatible with the header files generated with release 2.0 of the ST7MC AK Control Panel.
- The motor's rotating direction can be selected for the demo programs, either constant (CW or CCW) or alternatively changing ([Section 3.1](#)).

1.2 Customer support

For more information or help concerning this software, please contact the nearest sales office (see [Contact list](#)).

1.2.1 Software updates

You can get software updates from the ST Internet web site mcu.st.com. For information on firmware and hardware revisions, call your distributor or ST using the contact list provided below.

1.2.2 Contact list

North America

Canada and East Coast

STMicroelectronics
Lexington Corporate Center
10 Maguire Road, Building 1, 3rd floor
Lexington, MA 02421
Phone: (781) 402-2650

Mid West

STMicroelectronics
1300 East Woodfield Road, Suite 410
Schaumburg, IL 60173
Phone: (847) 585-3000

West coast

STMicroelectronics, Inc.
1060 E. Brokaw Road
San Jose, CA 95131
Phone: (408) 452-8585

Note: For American and Canadian customers seeking technical support the US/Canada is split in 3 territories. According to your area, contact the appropriate sales office from the list above and ask to be transferred to an 8-bit microcontroller Field Applications Engineer.

Europe

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Germany +49 89 46 00 60

U.K. +44 162 889 0800

Asia/Pacific Region

Japan +81 3 3280 4120

Hong-Kong +85 2 2861 5700

Sydney +61 2 9580 3811

Taipei +88 6 2 2378 8088

2 Read Me First

This chapter provides important information about this release.

2.1 Host PC system requirements

Not relevant for the library. Refer to STVD7 (or other selected IDE) user manuals for development tools requirements.

2.2 Software Installation

BLDC_3PH_SL_2.0.zip for sensorless motor and BLDC_3PH_SR_2.0.zip for sensor motor must be unzipped completely in your working folder (recommended, providing the previous library source files were not modified), or few selected source files can be extracted according to application needs and current development state. See AN1905 for details.

2.3 Hardware support

The demo programs included in the main.c file has been written to work on the Softec Microsystems ST7MC starter Kit. The rest of the library has been designed to be modular and easily customized for any kind of hardware.

2.4 ST7MC AK Control Panel support

This library is compatible with the header files generated with release 2.0 of the ST7MC AK Control Panel.

3 What's New In ST7MC Three-phase BLDC Motor Control Software Library?

3.1 Summary of changes in Release 2.0

New Features

- To comply with the new functionalities of the version 2.0 of the ST7MC Control Panel the rotating direction can be chosen for the demo program:
 - Clockwise
 - Counterclockwise
 - "toggle mode": the direction will change everytime the motor is stopped and re-started.This is done by modifying the `#define Rotor_Direction` parameter, in `mtc_settings_sensorless.h` for sensorless motor or in `mtc_settings_sensor.h` for sensor motor, (that can be generated by the Control Panel V2.0 directly).

4 Information For Major Previous Releases

Release 1.0.1 (October 2004)

- Library delivered with STVD7 3.x workspace including two projects for Cosmic and Metrowerks compilers.
- Library can be compiled with the free 4K compiler version from Cosmic.
- The brake strategy has been changed to avoid short circuits on the bridge legs.
- The authorized change of PWM during demagnetisation in Voltage mode is now working.
- The unwanted starting peak current has been suppressed
- This library is compatible with the header files generated with release 1.1 of the ST7MC AK Control Panel.

Release 1.0.0 (May 2004)

- First release
- This library is compatible with the header files generated with release 1.0 of the ST7MC AK Control Panel.

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