ST7MC-KIT/BLDC

Softec's complete motor control starter kit for ST7MC

Data brief

Features

- Motor control board
  - Motor and board input power stage
  - Optoisolation board
  - Auxiliary power supply and voltage rectification
  - Push buttons, trimmers for standalone operation
  - Hall sensor input
  - Three-phase outputs to motor
  - Tachometer input for closed-loop controlled AC motors
  - 10-pin ICC connector for in-circuit programming and in-circuit debugging
  - Prototyping area
  - RS-232 connector
- Control panel software
  - Parameter configuration for BLDC and 3-phase induction motors
  - Basic settings interface for configuring motor, start-up and real time parameters
  - Advanced settings interface for configuring frequency, speed range, stop conditions, etc.
  - Outputs header files for your application taking into account modifications to the configuration
- STXF-INDART/USB
  - 10-pin ICC connection
  - USB connection to host PC
  - Two breakpoints
  - Advanced breakpoints on data, access type, access range, stack.

Description

The Softec motor control starter kit for ST7MC (ST ordering code: ST7MC-KIT/BLDC) is an integrated system designed to provide you with a complete, ready-to-use motor control application for the ST7MC family of microcontrollers. It allows real-time control of three-phase brushless DC and AC motors in all control topologies from a PC-based GUI, or in standalone operation.

The control panel software provides an easy-to-use interface to configure, start and run the motor, modify parameters and evaluate ST7FMC motor control features, then generate header files for your own motor control application.

The kit also comes with the STXF-INDART/USB in-circuit debugger/programmer and STVD7 integrated development environment that allow you to take advantage of the ST7FMC's on-chip resources for in-circuit programming and in-circuit debugging.

For further information about the motor control starter kit, please refer to www.st.com/mcu, or the Softec internet site www.softecmicro.com.

For more information about inDART in-circuit debuggers/programmers, please refer to the *ST7xxxx-INDART Data Brief*.

Figure 1. Motor control starter kit for ST7

For further information contact your local STMicroelectronics sales office. www.st.com

1 Starter kit architecture

1.1 Motor control evaluation board

Application board with ST7FMC, built-in power stage and optoisolation board, is designed to directly drive AC and DC motors. It also includes USART/LIN, EEPROM, potentiometers, sensor inputs for your application.

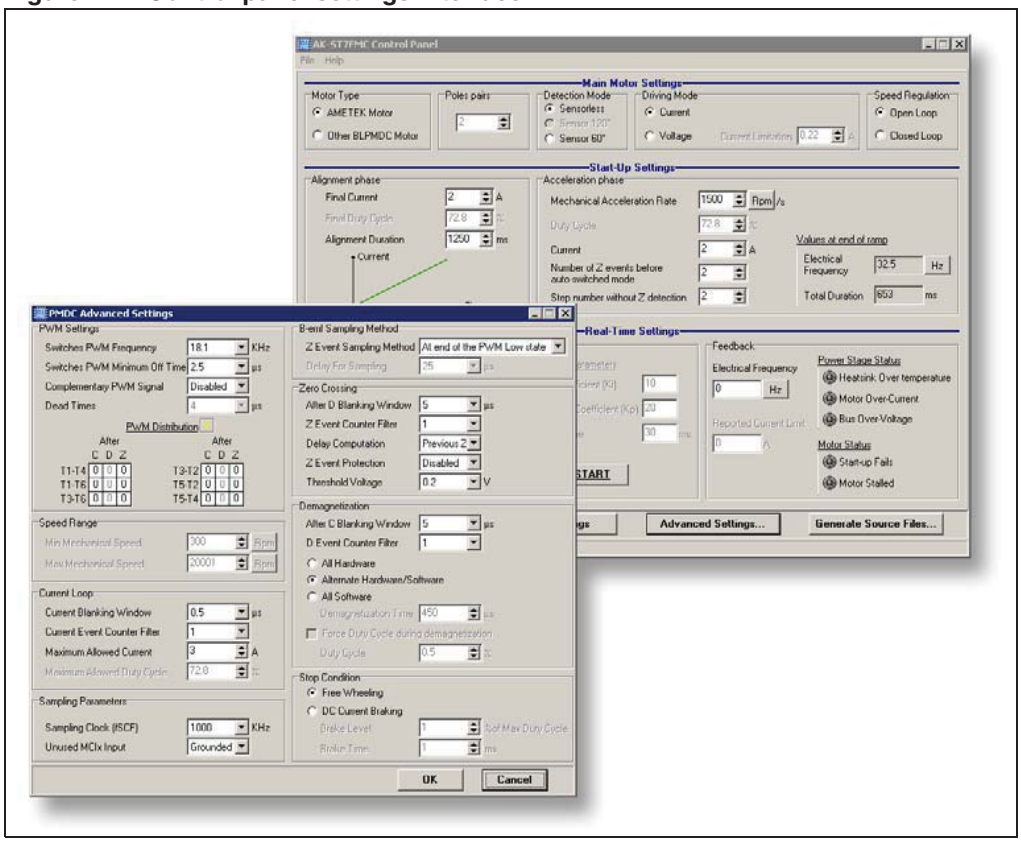
1.2 Brushless DC motor

The included 24 VDC motor is ready for direct connection to the motor control evaluation board.

1.3 Control panel

Graphical user interface on your host PC that allows you start up and run the motor in just minutes, then fine tune parameters and output header files for your own application.

Figure 2. Control panel settings interface



1.4 STXF-INDART/USB

In-circuit debugging and in-circuit programming tool that provides the hardware interface with the host PC via USB and with your ST7FMC via 10-pin in-circuit communication (ICC) connection.

1.5 STVD7 for inDART

Integrated development environment for writing, building and debugging your application.

1.6 Optoisolation board

Board with two 10-pin ICC connectors (In/Out) provides galvanic isolation between the in-circuit debugging/programming tool and any target board supplied by high voltage. It is included with the motor control starter kit, or can be ordered separately (ST ordering code: ST7-ICC/OPTOISOL).

1.7 Induction motor

240V/800W Selni three-phase induction motor for use with the motor control starter kit using induction motor default values (for evaluation purposes). It is not included with the kit, but can be ordered separately (ST ordering code: ST7MC-MOT/IND).

2 ECOPACK®

In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK® packages, depending on their level of environmental compliance. ECOPACK® specifications, grade definitions and product status are available at: *www.st.com*. ECOPACK® is an ST trademark.

3 Revision history

Table 1. Document revision history

Date	Revision	Changes
30-Aug-2005	1	Initial release.
17-Nov-2011	2	Document formatting updated.

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