

C2000Ware MotorControl SDK getting started guide

The MotorControl SDK for C2000™ microcontrollers (MCU) is a cohesive set of software infrastructure, tools, and documentation designed to minimize C2000 MCU-based motor control system development time. The software includes firmware that runs on C2000 motor control evaluation modules (EVMs) and TI designs (TIDs). A copy of C2000Ware is provided as part of the SDK and offers device-specific drivers and support software to complete examples in sophisticated system applications.

MotorControl SDK requires:

- Code Composer Studio™ v7.4.0 or newer
- C2000 Compiler v16.9.5.LTS or newer

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1 Package Structure

The C2000Ware MotorControl SDK software package is organized into the directory structure shown in [Table 1](#).

Table 1. MotorControl SDK Root Directories

Directory Name	Description
.metadata	Contains the MotorControl SDK resource explorer GUI files (do not modify)
c2000ware	Contains the C2000Ware development software and documentation
docs	Contains the MotorControl SDK package user guides and a document HTML page
libraries	Contains libraries with algorithm modules specific to motor control applications
solutions	Contains the development kits and solutions for C2000 devices targeting different application areas
uninstallers	Contains the MotorControl SDK uninstaller

1.1 C2000Ware

MotorControl SDK contains the necessary software and support for C2000 microcontrollers. C2000Ware is a cohesive set of development software and documentation designed to minimize software development time. From device-specific drivers and libraries to device peripheral examples, C2000Ware provides a solid foundation to begin development and evaluation of your product.

To learn more, visit [C2000Ware](#).

1.2 Documentation

Within MotorControl SDK, there is an extensive amount of development documentation ranging from development kit hardware documentation to device-specific user's guides. To assist with locating the necessary documentation, an HTML page is provided that contains a full list of all the docs in the MotorControl SDK package. Locate this page in the "docs" directory.

1.3 Libraries

The libraries included in the MotorControl SDK range from angle generator and datalog to the FAST™ Software Encoder symbols for enabling InstaSPIN-FOC™ software. The libraries directory includes documentation and examples when applicable.

1.4 Solutions

The MotorControl SDK provides demo code for various motor control applications in the solutions directory. These solutions provide software support for TI motor control development kits and TI designs (TIDs) with related documentation, source code, and CCS projects.

2 MotorControl SDK GUI

MotorControl SDK provides a graphical user interface (GUI) for intuitive navigation of software, libraries, user's guides, and other package content. The GUI is integrated into Code Composer Studio™ upon installation. Within Code Composer Studio v 7.4.0 and newer, go to "View → Resource Explorer" to locate the C2000Ware MotorControl SDK GUI explorer.

The MotorControl SDK uses the online Resource Explorer that includes many updated features. This includes full package navigation on the web or in CCS without requiring installation of MotorControl SDK.

For more information, see the [MotorControl SDK Resource Explorer](#).

3 Updating MotorControl SDK

Within the MotorControl SDK installation directory, an update checking application, “MotorControlSDKUpdater.exe”, is provided to check for a newer version of the MotorControl SDK. When the updater is run, a window is displayed, stating that the current version installed is the newest version or that a newer version is available for download. When a new version is available, the option is given to download and install the new version. The application proceeds to download the latest MotorControl SDK installer to the specified download directory. Upon completing the download, the installer automatically runs and continues with the standard installer steps.

4 Code Composer Studio

Code Composer Studio is an integrated development environment (IDE) that supports TI's Microcontroller and Embedded Processors portfolio. Code Composer Studio comprises a suite of tools used to develop and debug embedded applications. The latest version of Code Composer Studio can be obtained at the following URL: <http://www.ti.com/ccstudio>.

All projects and examples in the MotorControl SDK are built for and tested with TI's Code Composer Studio. Although Code Composer Studio is not included with the MotorControl SDK installer, it is easily obtainable.

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