
**Keil™ starter kit for STM32F100/101/102/103 lines
(with STM32F103ZE MCU)**

Data brief

Features

- The Keil MDK-Lite development tools:
 - µVision®4 IDE/Debugger for application programming and debugging
 - ARM C/C++ compiler
 - RTX real-time kernel, a multi-tasking operating system for embedded applications
 - MDK-Lite supports applications with up to 32 KB code-size
- ULINK-ME in-circuit debugger/programmer with USB interface to host PC and 20-pin JTAG or 10-pin CoreSight debug interface
- Full-featured Keil evaluation board with a 72 MHz STM32F103ZE MCU

**Description**

The Keil starter kit is a complete, cost-effective solution for starting application development and evaluating the STMicroelectronics STM32F100/101/102/103 ARM Cortex™-M3 processor-based microcontrollers.

The STM3210E-SK/KEIL starter kit provides all the hardware and software you need to start developing applications for the STM32 ARM core-based families of microcontrollers. It comes complete with a full-featured evaluation board (including USB device, CAN, USARTs, Audio, MicroSD Card interface and QVGA LCD), Keil's MDK-ARM Lite Edition (32 KB) development tools, and the ULINK-ME™ (USB/JTAG) adapter.

Keil starter kits are available for a full range of ST ARM core-based microcontrollers.

Starter kit architecture

Keil development software is a suite of software development tools for creating and debugging microcontroller applications that includes:

- **µVision® 4** integrated development environment, which integrates the ARM RealView Compilation Tools and Keil's debugging software so that users can quickly and easily develop and debug their applications while they run on a target microcontroller.
- **ARM RealView Compilation Tools (RVCT)** 32 KB code-size limited version of the optimizing C/C++ compiler for ARM™ core-based microcontrollers.
- **ULINK-ME™** USB/JTAG in-circuit debugger / programmer, which integrates fully with µVision4, allowing users to download the application to the target and debug it while it runs on the ST ARM core-based microcontroller on the evaluation board.
- **Keil™ evaluation board**, an application board that provides a full range of features to help users evaluate and start developing applications for the included STM32F103ZETx microcontroller. The Keil MCBSTM32E evaluation board includes the following key features:
 - 1-Mbyte external RAM, FSMC
 - 8-Mbyte external Flash, SPI
 - Micro SD/MMC card connector
 - 20-pin JTAG connector
 - 20-pin trace tool connector
 - Power supply from USB
 - USART connector
 - SPI
 - I²C
 - CAN connector
 - USB connector
 - 8 user LEDs
 - QVGA LCD display
 - Potentiometer connected to ADC
 - 4 user and wake-up push buttons
 - Reset button
 - Wrap area
 - Joystick

Ordering information

Keil starter kits can be ordered from Keil or from your nearest ST distributor or sales office for STM32F100/101/102/103 lines (ST order code: STM3210E-SK/KEIL is replaced by STM3210G-SK/KEI).

For more information and documentation, please refer to the Keil web site or the STMicroelectronics microcontroller support site at www.st.com.

Revision history

Table 1. Document revision history

Date	Revision	Changes
15-Mar-2011	1	Initial release.
26-Apr-2011	2	Added Table 1: Device summary .
11-May-2012	3	Modified Features and Description for clarification.
30-Sep-2013	4	Updated the title from “ <i>Keil™ starter kit for STM32F1 series Performance and Access Line microcontrollers (STM32F103ZE MCU)</i> ” to “ <i>Keil™ starter kit for STM32F100/101/102/103 lines (with STM32F103ZE MCU)</i> ”. Added “F100” to the Description . Removed Table 1 Device Summary . Updated the Ordering information .

Please Read Carefully:

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

ST PRODUCTS ARE NOT DESIGNED OR AUTHORIZED FOR USE IN: (A) SAFETY CRITICAL APPLICATIONS SUCH AS LIFE SUPPORTING, ACTIVE IMPLANTED DEVICES OR SYSTEMS WITH PRODUCT FUNCTIONAL SAFETY REQUIREMENTS; (B) AERONAUTIC APPLICATIONS; (C) AUTOMOTIVE APPLICATIONS OR ENVIRONMENTS, AND/OR (D) AEROSPACE APPLICATIONS OR ENVIRONMENTS. WHERE ST PRODUCTS ARE NOT DESIGNED FOR SUCH USE, THE PURCHASER SHALL USE PRODUCTS AT PURCHASER'S SOLE RISK, EVEN IF ST HAS BEEN INFORMED IN WRITING OF SUCH USAGE, UNLESS A PRODUCT IS EXPRESSLY DESIGNATED BY ST AS BEING INTENDED FOR "AUTOMOTIVE, AUTOMOTIVE SAFETY OR MEDICAL" INDUSTRY DOMAINS ACCORDING TO ST PRODUCT DESIGN SPECIFICATIONS. PRODUCTS FORMALLY ESCC, QML OR JAN QUALIFIED ARE DEEMED SUITABLE FOR USE IN AEROSPACE BY THE CORRESPONDING GOVERNMENTAL AGENCY.

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2013 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Philippines - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com