



# THE DATASHEET OF STM3210E-SK/KEIL





# STM32-SK/KEIL STR91X-SK/KEI, STR7-SK/KEIL

Keil™ starter kits for ST ARM core-based microcontrollers

Data brief

## Features

- The ARM® RealView™ Microcontroller Development Kit complete development software package with:
  - $\mu$ Vision3™ integrated development environment for application programming and debugging
  - ARM RealView Compilation Tools C/C++ compilation tools for output of code up to 16 Kbytes
  - RTX real-time kernel, a multi-tasking operating system for embedded applications
- ULINK™ in-circuit debugger/programmer with USB interface to host PC and 20-pin JTAG application interface
- Full-featured Keil evaluation board with target microcontroller. On-board features are listed in [Table 1](#).

## Description

The **Keil starter kits** are complete solutions for starting application development and evaluating STMicroelectronics' ARM core-based microcontrollers.

They come with all the hardware and software you need to start developing applications for the STM32, STR9 and STR7 ARM core-based families of microcontrollers. The kits come complete with Keil's *uVision3* integrated development environment for ARM and the 16 Kbyte code-size limited version of the ARM RealView Compilation Tools, a full-featured evaluation board (including USB, USART, SPI, ADC) and target microcontroller, with the ULINK (USB/JTAG) in-circuit debugger/programmer.

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:

- **uVision3** 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)** 16K code-size limited version of the optimizing C/C++ compiler for ARM™ core-based microcontrollers.
- **ULINK™** USB/JTAG in-circuit debugger / programmer, which integrates fully with *uVision3*, 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 microcontroller.

**Table 1. Evaluation board key features**

Feature	Starter kit						
	STM3210C -SK/KEIL	STM3210E -SK/KEIL	STM3210B -SK/KEIL	STR91X -SK/KEI	STR750 -SK/KEIL	STR73xF	STR71xF
Included microcontroller	STM32F107C	STM32F103E	STM32F103B	STR912FAW4	STR750FV2	STR730FZ2	STR710FZ2
20-pin JTAG connector	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10-pin ARM Cortex-debug connector	Yes	No	No	No	No	No	No
Trace tool connector	20-pin	20-pin	N/A	38-pin (footprint)	N/A	N/A	N/A
External power supply included	No	No	No	No	No	No (7-12V DC)	No (7-9V DC)
Power supply from USB	Yes	Yes	Yes	Yes	Yes	No	No
USART connector(s)	1	1	1	2	2	4	2
SPI	Yes	Yes	Yes	Yes	Yes	Yes	Yes
I <sup>2</sup> C	Yes	Yes	Yes	Yes	Yes	Yes	No
CAN connector	Yes (2)	Yes	Yes	Yes	Yes	Yes	Yes
USB connector	Yes (micro)	Yes	Yes	Yes	Yes	No	Yes
Ethernet connector	Yes	N/A	N/A	Yes	N/A	N/A	N/A
User LEDs	8	8	8	8	8	16	8
LCD display	QVGA with touchscreen	QVGA	Yes (2x16)	Yes (2x16)	Yes (2x16)	No	No
SD/MMC card connector	Yes (Micro)	Yes (Micro)	Yes	Yes	Yes	No	No

Table 1. Evaluation board key features (continued)

Feature	Starter kit						
	STM3210C-SK/KEIL	STM3210E-SK/KEIL	STM3210B-SK/KEIL	STR91X-SK/KEI	STR750-SK/KEIL	STR73xF	STR71xF
Potentiometer connected to ADC	Yes	Yes	Yes	Yes	Yes	Yes	No
User and wake-up push button(s)	4	4	3	3	3	2	3
Reset button	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wrap area	Yes	Yes	Yes	Yes	Yes	Yes	No
<b>Additional features</b>							
External RAM	No	1M - FSMC	No	No	No	No	No
External Flash	8K - I2C	8M - SPI	No	No	No	No	No
Joystick	Yes	Yes	No	No	No	No	No
Audio: Line-out/Headphone	Yes	No	No	No	No	No	No
Audio: Line-in/Microphone	Yes	No	No	No	No	No	No
Motion sensor/accelerometer	Yes	No	No	No	No	No	No

## Ordering information

All Keil starter kits can be ordered from Keil. Starter kits are available from your nearest STMicroelectronics distributor or sales office for the following:

- STM32 connectivity line microcontrollers (ST order code: **STM3210C-SK/KEIL**)
- STM32 performance and access line microcontrollers with 512K Flash (ST order code: **STM3210E-SK/KEIL**)
- STM32 performance and access line microcontrollers with 128K Flash (ST order code: **STM3210B-SK/KEIL**)
- STR91xF microcontrollers (ST order code: **STR91X-SK/KEI**)
- STR750xF microcontrollers (ST order code: **STR750-SK/KEIL**)

For more information and documentation, please refer to the Keil web site or the STMicroelectronics microcontroller support site at [www.st.com](http://www.st.com).

## Revision history

**Table 2. Document revision history**

<b>Date</b>	<b>Revision</b>	<b>Changes</b>
14-Jun-2007	1	Initial release.
04-Oct-2006	2	Added STR750-SK/KEIL and product characteristics
04-Oct-2007	3	Modified document title. Added STM3210B-SK/KEIL and product characteristics
17-Oct-2008	4	Added STM3210E-SK/KEIL and product characteristics
18-Jun-2009	5	Added STM3210C-SK/KEIL and product characteristics.

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