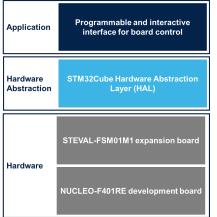# STSW-FSM01 software expansion package for the STEVAL-FSM01M1 evaluation board

Application	Programmable and interactive interface for board control
Hardware Abstraction	STM32Cube Hardware Abstraction Layer (HAL)
Hardware	STEVAL-FSM01M1 expansion board
	NUCLEO-F401RE development board

Product summary

Product summary	
Software expansion package for STEVAL-FSM01M1 evaluation board	STSW-FSM01
Advanced dual channel digital I/O module for safe automation	STEVAL-FSM01M1
STM32 Dynamic Efficiency MCU, Arm Cortex-M4 core with DSP and FPU, up to 512 Kbytes of Flash memory, 84 MHz CPU, Art Accelerator	STM32F401RE
Applications	Programmable Logic Controllers, Safe automation

Features

- Software package enabling communication, control and programming of the dual channel digital I/O board STEVAL-FSM01M1
- Compatible with STM32 Nucleo board NUCLEO-F401RE
- Includes native interactive UART communication protocol to control the board from PC over USB without any programming
- Includes programmable interface (API) allowing control and monitoring of all onboard functions to support quick prototyping of custom applications
- Includes ready to use program features for evaluating capabilities of expansion board and its components
- Automated self-integrity function test during program initialization
- Based on the STM32CubeHAL (Hardware Abstraction Layer) for the STM32 microcontrollers
- Easy portability across different STM32 microcontroller families thanks to STM32Cube framework
- Project files available for STM32CubeIDE, IAR Embedded Workbench and MDK-ARM (Keil µVision)

Description

The STSW-FSM01 software package for STM32 Nucleo is based on STM32Cube and it includes the complete board support package for STEVAL-FSM01M1 dual channel digital I/O expansion board. It is implemented as a reusable set of source code files.

The package includes programmable and interactive UART interface allowing control and monitoring of onboard components and measurement of the key system point voltages. Interactive feature of this package is a simple and easy-to-use console application that facilitates communication through serial virtual COM port provided by ST-LINK over USB. This allows users to test and evaluate functions of the board without the need of programming and installing heavy development toolchains.

This software is compatible with STEVAL-FSM01M1 expansion board in combination with NUCLEO-F401RE development board. The included software can be used in three integrated development environments (IDEs): STM32CubeIDE, IAR Embedded Workbench and MDK-ARM from Keil®.

Please refer to the user manual UM3176 for all information about this software package, its configuration and usage.

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For further information contact your local STMicroelectronics sales office.

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Revision history

Table 1. Document revision history

Date	Version	Changes
23-May-2023	1	Initial release.

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