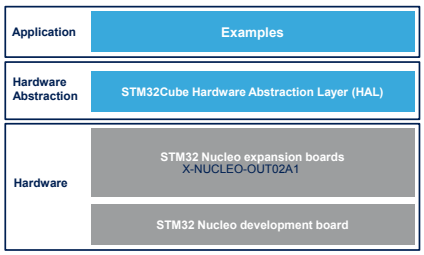
X-CUBE-OUT2

Data brief

Industrial digital output software expansion for STM32Cube



Features

- Complete software to build applications for the ISO8200AQ galvanic isolated octal high-side smart power solid state-relay
- GPIOs, SPI, PWMs and IRQs configuration
- Fault and power good interrupt handling
- Daisy chaining support
- Sample implementation available on the X-NUCLEO-OUT02A1 expansion board when connected to a NUCLEO-F401RE or NUCLEO-F334R8 development board
- Easy portability across different MCU families, thanks to STM32Cube
- Free, user-friendly license terms

Description

The X-CUBE-OUT2 expansion software package for STM32Cube runs on the STM32 and includes a driver for the ISO8200AQ.

The software provides an affordable and easy-to-use solution for the development of 8-channel digital output modules, letting you easily evaluate the ISO8200AQ communication and industrial load driving features.

The expansion is built on STM32Cube software technology to ease portability across different STM32 microcontrollers.

The software comes with a sample implementation of the driver running on the X-NUCLEO-OUT02A1 expansion board connected to a NUCLEO-F401RE or NUCLEO-F334R8 development board.

You can also perform evaluation of 16-channel digital output modules by connecting two X-NUCLEO-OUT02A1 and activating the daisy chaining feature.

Product summary	
Industrial digital output software expansion for STM32Cube	X-CUBE-OUT2
Industrial digital output expansion board based on ISO8200AQ for STM32 Nucleo	X-NUCLEO-OUT02A1
Galvanic isolated octal high-side smart power solid state-relay	ISO8200AQ
STM32 Nucleo-64 development board with STM32F401RE MCU	NUCLEO-F401RE
STM32 Nucleo-64 development board with STM32F334R8 MCU	NUCLEO-F334R8

1 Detailed description

1.1 What is STM32Cube?

STMCube™ is an STMicroelectronics initiative that helps you reduce development effort, time and cost. STM32Cube covers the STM32 portfolio.

STM32Cube version 1.x includes:

- STM32CubeMX, a graphical software configuration tool that allows the generation of C initialization code using graphical wizards.
- A comprehensive embedded software platform specific to each series (such as the STM32CubeF4 for the STM32F4 series), which includes:
  - the STM32Cube HAL embedded abstraction-layer software, ensuring maximized portability across the STM32 portfolio
  - a consistent set of middleware components such as RTOS, USB, TCP/IP and graphics
  - all embedded software utilities with a full set of examples

1.2 How does this software complement STM32Cube?

The proposed software is based on the STM32CubeHAL, the hardware abstraction layer for the STM32 microcontroller. The package extends STM32Cube by providing a Board Support Package (BSP) for the STM32 Nucleo expansion board based on the ISO8200AQ.

The drivers abstract low-level details of the hardware to access the ISO8200AQ device data in a hardware independent manner.

The software package includes a set of examples that the developer can use to start experimenting with the code. The 8 output channels are managed through SPI peripheral and application debugging is supported on the X-NUCLEO-OUT02A1 through LEDs for activity and diagnostics.

Revision history

Table 1. **Document revision history**

Date	Version	Changes
12-Nov-2018	1	Initial release.