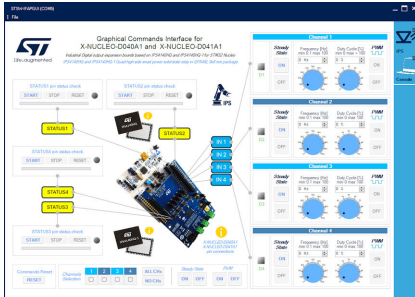


## Demonstration firmware for NUCLEO-F401RE enabling STSW-IFAPGUI on X-NUCLEO-DO40A1 and X-NUCLEO-DO41A1 expansion boards



### Features

- Full control of the X-NUCLEO-DO40A1 and X-NUCLEO-DO41A1 expansion boards via the STSW-IFAPGUI graphical user interface
- Control of:
  - Output channel switching frequency and duty cycle configuration
  - Visualization of per-channel thermal shutdown diagnostic

### Description

The STSW-DO40F4 firmware runs on the NUCLEO-F401RE development board and allows controlling the X-NUCLEO-DO40A1 and X-NUCLEO-DO41A1 expansion boards using the STSW-IFAPGUI graphical user interface.

The STSW-DO40F4 contains the software routines that enable the USB-based communication between the NUCLEO-F401RE and the system where the STSW-IFAPGUI runs, and the control of the X-NUCLEO-DO40A1 or X-NUCLEO-DO41A1 expansion board.

The firmware can control a single expansion board (X-NUCLEO-DO40A1 or X-NUCLEO-DO41A1).

The STSW-IFAPGUI is based on a common engine and several plug-ins designed to communicate through the USB connection with the application layer running on the NUCLEO-F401RE development board stacked with the expansion board.

Product summary	
Demonstration firmware for NUCLEO-F401RE enabling STSW-IFAPGUI on X-NUCLEO-DO40A1 and X-NUCLEO-DO41A1 expansion boards	STSW-DO40F4
Industrial digital output expansion board based on IPS4140HQ for STM32 Nucleo	X-NUCLEO-DO40A1
Industrial digital output expansion board based on IPS4140HQ-1 for STM32 Nucleo	X-NUCLEO-DO41A1
STM32 Nucleo-64 development board with STM32F401RE MCU, supports Arduino and ST morpho connectivity	NUCLEO-F401RE
Graphical user interface for the industrial IPS evaluation boards based on STM32 Nucleo	STSW-IFAPGUI
Applications	Industrial Safety Industrial Tools

## Revision history

**Table 1. Document revision history**

Date	Revision	Changes
17-Jan-2025	1	Initial release.

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