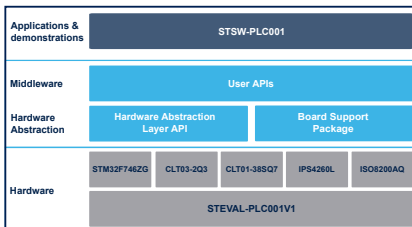


## Evaluation firmware for STEVAL-PLC001V1



### Features

- Framework to use [STEVAL-PLC001V1](#) evaluation board modules including TouchGFX-based HMI
- Simple user APIs to access each of the 12 digital inputs and 12 digital outputs individually or collectively (per module)
- Fault and status reporting
- Board support utility routines and predefined software timers
- Demo use cases including board information mode
- Easily expandable to include user-defined use cases, including ladder logic

### Description

The [STSW-PLC001](#) is the preloaded firmware package for the [STEVAL-PLC001V1](#) board that allows selecting different use cases through the board touchscreen.

You can choose among several use cases: DIDO in which each digital output (DO) mimics the corresponding digital input (DI); Information that displays the board info; Ladder logic, which is a simple ladder logic example; Self-test, which consists of a series of tests for touchscreen display, external memories (SRAM and Flash) and input and output channels with predefined pattern loopback connections; User defined, which contains use cases defined by the user.

The firmware package provides user API functions to invoke board support routines, such as APIs to access each of the 12 digital inputs and 12 digital outputs individually or collectively (per module). Other APIs check faults in input/output modules, control HMI back-light intensity, debug LEDs, enable or disable a module.

The firmware also includes FreeRTOS™ real-time operating system for microcontrollers, as well as sample predefined on/off delay and retentive timers. It also provides source code, [STM32CubeMX](#) files, STM32 HAL, and LL libraries to access the hardware.

STM32 TouchGFX graphics engine based HMI displays the board and application status. It also gathers user inputs.

Product summary	
Evaluation firmware for STEVAL-PLC001V1	<a href="#">STSW-PLC001</a>
Industrial PLC evaluation board with HMI interface	<a href="#">STEVAL-PLC001V1</a>
Self-powered digital input current limiter	<a href="#">CLT03-2Q3</a>
High speed digital input current limiter	<a href="#">CLT01-38SQ7</a>
Galvanic isolated octal high side smart power solid state relay	<a href="#">ISO8200AQ</a>
Quad low-side intelligent power switch	<a href="#">IPS4260L</a>
High-performance and DSP with FPU ARM Cortex-M7 MCU	<a href="#">STM32F746ZG</a>
Applications	<a href="#">Programmable Logic Controllers (PLC)</a>

## Revision history

**Table 1. Document revision history**

Date	Revision	Changes
25-Oct-2021	1	Initial release.

**IMPORTANT NOTICE – PLEASE READ CAREFULLY**

STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST’s terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers’ products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. For additional information about ST trademarks, please refer to [www.st.com/trademarks](http://www.st.com/trademarks). All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2021 STMicroelectronics – All rights reserved