

STM32Cube application software for STDES-IOD002V1, with IO-Link demo stack, IODD file and internal temperature sensors monitoring

Applications & demonstrations	STSW-IOD02L051	
Middleware	Middleware description	
Hardware Abstraction	Hardware Abstraction Layer API	Board Support Package
	ST32Cube	STM32L051T8 L6364Q
Hardware	STDES-IOD002V1	



Features

- Software package to build IO-Link device applications for [STDES-IOD002V1](#) board based on [L6364Q](#) and [STM32L051T8](#) microcontroller
- Middleware library featuring IO-Link device mini-stack for [L6364Q](#)
- Ready-to-use monitoring of [L6364Q](#) and microcontroller embedded temperature sensors
- Easy source code integration for additional [ISM330DHCX](#) or [IIS2MDC](#) external sensors connected to the embedded sensor interface
- Easy portability across different MCU families, thanks to [STM32Cube](#)
- Free, user-friendly license terms

Description

[STSW-IOD02L051](#) is an [STM32Cube](#) software package enabling IO-Link communication when the [STDES-IOD002V1](#) is connected to an IO-Link master.

[STM32Cube](#) is a combination of a full set of PC software tools and embedded software blocks running on STM32 microcontrollers and microprocessors.

Based on the [STM32CubeHAL](#), the [STSW-IOD02L051](#) extends [STM32Cube](#) by providing a board support package (BSP) for an IO-Link communication based on a demo-stack library managing data coming from internal [L6364Q](#) and [STM32L051T8](#) temperature sensors.

The architecture of this application software facilitates the integration with other software (also X-CUBE based) with the aim of creating examples for the most common application technologies.

Included libraries enable functions creating a real and usable system for developers.

Hardware drivers and abstract low-level details allow the middleware components and applications to access data in a hardware-independent manner. The IO-Link demo-stack is included in the middleware libraries.

The software package includes the IODD file to be uploaded onto the user's IO-Link master.

Included software can be used in three integrated development environments (IDEs): IAR, KEIL and [STM32CubeIDE](#).

Product summary	
Firmware for STDES-IOD002V1	STSW-IOD02L051
Reference design board for dual channel IO-Link Device applications	STDES-IOD002V1
Dual channel transceiver IC for SIO and IO-Link sensor applications	L6364Q
Ultra-low-power Arm Cortex-M0+ MCU with 64 Kbytes of Flash memory, 32 MHz CPU	STM32L051T8
Applications	Factory automation Industrial sensors

Revision history

Table 1. Document revision history

Date	Revision	Changes
06-Apr-2021	1	Initial release.

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