

STM32 Nucleo pack for IO-Link multi-sensor device with stack v1.1.3



Features

- Equipped with Arduino UNO R3 connectors and compatible with [STEVAL-IOD003V1](#), [X-NUCLEO-IKS01A2](#) and [NUCLEO-L073RZ](#) boards
- The [STEVAL-IOD003V1](#) features:
 - IO-Link (PHY) device layer based on [L6362A](#)
 - Operating voltage range 6.5 to 35 V
 - Dedicated CQ overload pin (wake-up)
 - Diagnostics pin (UVLO, overtemperature and cut-off)
 - UART interface
 - Linear regulators for independent supply from +24 V bus (12 mA 3.3 V and 100 mA 12 V)
 - LEDs for status and diagnostics
 - Overload and overheating protections with non-dissipative cut-off function
 - Full reverse polarity on IO-Link interface pins
 - EMC protections according to IO-Link v1.1 and IEC 60947-5-2
 - Ground and V_{CC} wire break protections
- The [X-NUCLEO-IKS01A2](#) features:
 - [LSM6DSL](#) 3D accelerometer and 3D gyroscope
 - [LSM303AGR](#) 3D accelerometer and 3D magnetometer
 - [LPS22HB](#) pressure sensor
 - [HTS221](#) capacitive digital relative humidity and temperature
 - DIL24 socket for additional MEMS adapters and other sensors
 - Free comprehensive development firmware library and samples for all sensors compatible with [STM32Cube](#) firmware
- The [NUCLEO-L073RZ](#) features:
 - [STM32L073RZT6](#) 32-bit microcontroller based on ARM® Cortex®-M0+ core
 - Pre-programmed with [STSW-IOD01](#) (IO-Link device stack v1.1.3)
 - Arduino UNO R3 connectivity and ST morpho extension pin headers
 - Mbed-enabled (<http://mbed.org>)
 - On-board ST-LINK/V2-1 debugger/programmer with SWD connector

Product summary	
STM32 Nucleo pack for IO-Link multi-sensor device with Stack v1.1.3	P-NUCLEO-IOD01A1
IO-Link v1.1.3 sensor software for P-NUCLEO-IOD01A1	STSW-IOD01
IO-Link device evaluation board based on L6362A with Arduino connectors for STM32 Nucleo	STEVAL-IOD003V1
IO-Link communication transceiver device IC	L6362A
Motion MEMS and environmental sensor expansion board for STM32 Nucleo	X-NUCLEO-IKS01A2
Applications	Factory Automation IO-Link connectivity

Description

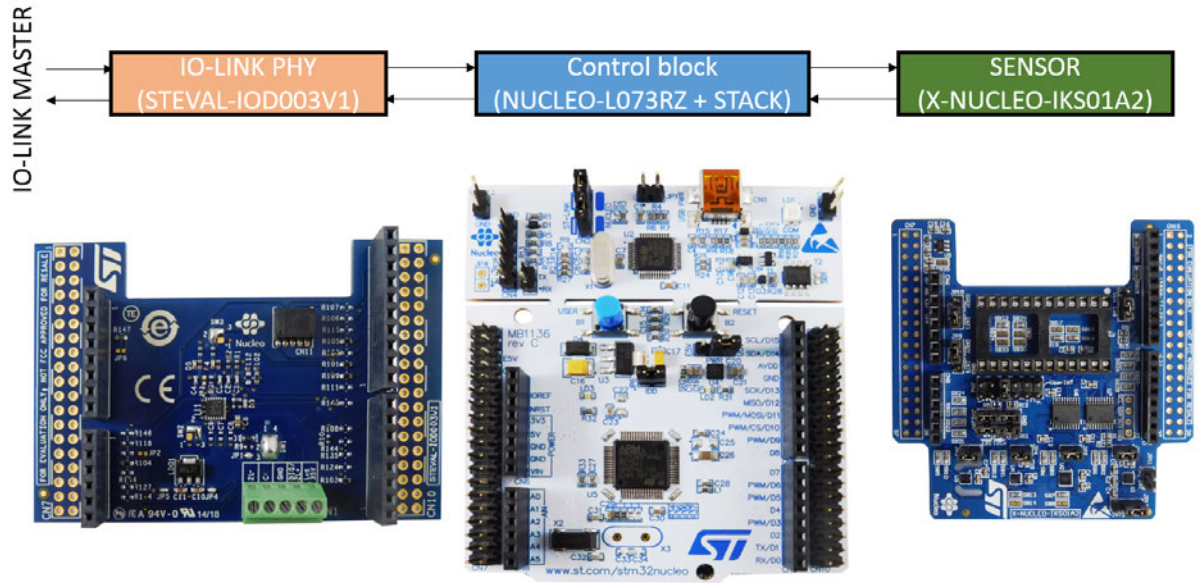
The [P-NUCLEO-IOD01A1](#) is an [STM32 Nucleo](#) pack composed of the [NUCLEO-L073RZ](#) development board, the [STEVAL-IOD003V1](#) evaluation board and the [X-NUCLEO-IKS01A2](#) expansion board.

The [STEVAL-IOD003V1](#) offers an IO-Link device PHY layer ([L6362A](#)) while the [NUCLEO-L073RZ](#) runs the IO-Link stack v1.1.3 included in the [STSW-IOD01](#) (developed by and property of TEConcept GmbH) and the firmware controlling the [X-NUCLEO-IKS01A2](#) sensors.

The STM32 Nucleo pack provides an affordable and easy-to-use solution for the development of IO-Link and SIO applications, [L6362A](#) communication features and robustness, together with the [STM32L073RZT6](#) computation performance.

1 P-NUCLEO-IOD01A1 main blocks

Figure 1. P-NUCLEO-IOD01A1 block details



Revision history

Table 1. Document revision history

Date	Version	Changes
06-Jun-2018	1	Initial release.
04-Jul-2018	2	Removed schematic diagrams.
09-Oct-2018	3	Updated cover page features.
09-Jun-2020	4	Added references to STSW-IOD01 IO-Link v1.1.3 sensor software.

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