

## STM32 Nucleo pack for IO-Link device applications based on L6364Q transceiver, industrial sensors and STM32L452RE MCU



### Features

- **X-NUCLEO-IOD02A1** IO-Link transceiver expansion board based on the **L6364Q** device
- **X-NUCLEO-IKS02A1** multi-sensor expansion board based on **ISM330DHCX** MEMS 3D accelerometer and 3D gyroscope, **IIS2MDC** MEMS 3D magnetometer, **IIS2DLPC** MEMS 3D low power accelerometer and **IMP34DT05** MEMS digital omnidirectional microphone
- **NUCLEO-L452RE** development board embedding **STM32L452RET6U** 32-bit microcontroller based on ARM® Cortex®-M4 core (80 MHz max) with 512 Kbyte Flash memory and 160K byte SRAM
- **FP-IND-IODSNS1** function pack featuring IO-Link demo-stack for **X-NUCLEO-IOD02A1** and sensor control on the **X-NUCLEO-IKS02A1**

### Description

The **P-NUCLEO-IOD02A1** is an **STM32 Nucleo** pack composed of the **X-NUCLEO-IOD02A1** and **X-NUCLEO-IKS02A1** expansion boards stacked on the **NUCLEO-L452RE** development board.

The **X-NUCLEO-IOD02A1** features an IO-Link device transceiver for the physical connection to an IO-Link master, while the **X-NUCLEO-IKS02A1** features a multi-sensor board for industrial applications, and the **NUCLEO-L452RE** features the necessary hardware resources to run the **FP-IND-IODSNS1** function pack and to control the transceiver and multi-sensor boards.

The **FP-IND-IODSNS1** combines an IO-Link demo stack library (derived from **X-CUBE-IOD02**) with the **X-CUBE-MEMS1** and features an example of IO-Link device multi-sensor node.

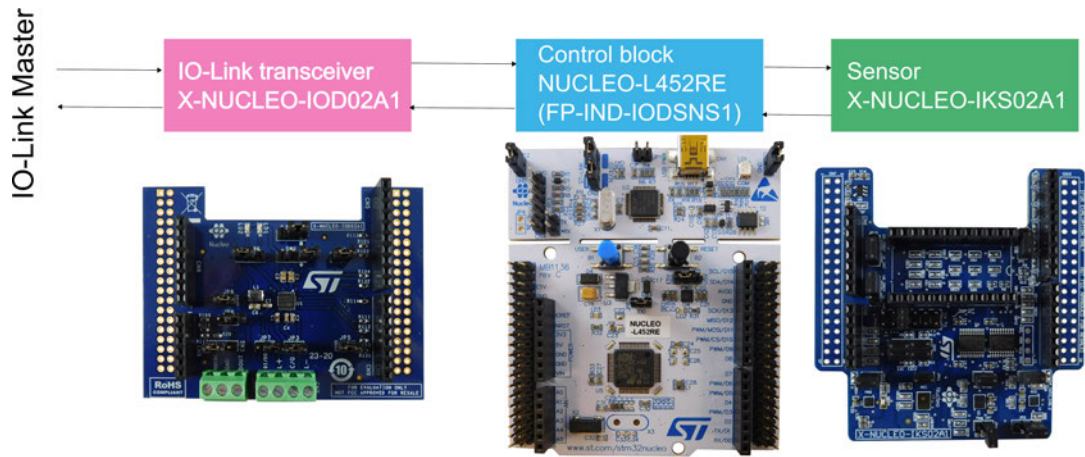
The **P-NUCLEO-IOD02A1** can be used for evaluation purpose and as development environment.

The **STM32 Nucleo** pack provides an affordable and easy-to-use solution for the development of IO-Link and SIO applications, evaluation of **L6364Q** communication features and robustness, together with the **STM32L452RET6U** computation performance.

Product summary	
STM32 Nucleo pack for IO-Link device applications	<b>P-NUCLEO-IOD02A1</b>
STM32Cube function pack for P-NUCLEO-IOD02A1, with IO-Link stack, IODD and control software for industrial sensors	<b>FP-IND-IODSNS1</b>
Dual channel transceiver IC for SIO and IO-Link sensor applications	<b>L6364Q</b>
Dual channel IO-Link device expansion board based on L6364Q for STM32 Nucleo	<b>X-NUCLEO-IOD02A1</b>
Motion MEMS and microphone MEMS expansion board for STM32 Nucleo	<b>X-NUCLEO-IKS02A1</b>
Applications	<b>Factory Automation</b> <b>IO-Link connectivity</b>

# 1 P-NUCLEO-IOD02A1 main blocks

Figure 1. P-NUCLEO-IOD02A1 block details



## Revision history

**Table 1. Document revision history**

Date	Version	Changes
04-Dec-2020	1	Initial release.

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