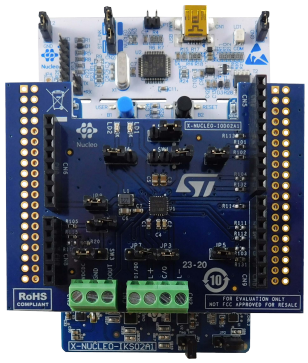
P-NUCLEO-IOD02A1

Data brief

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.

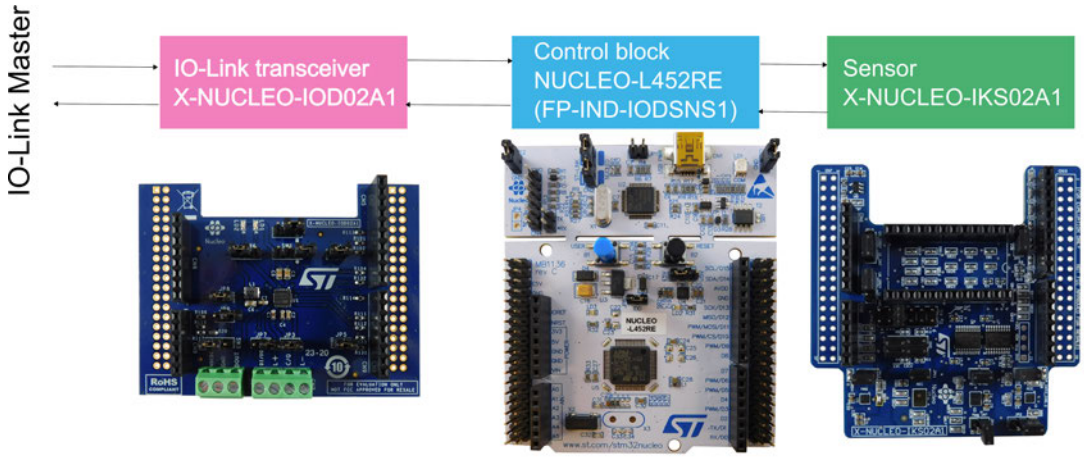
The P-NUCLEO-IOD02A1 can be used for evaluation purpose and as development environment.

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

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.