P-NUCLEO-IOD04A1

Data brief

STM32 Nucleo pack for IO-Link device applications based on L6364Q transceiver, IPS2050H-32 power switch and STM32L073RZ

Features

- X-NUCLEO-IOD02A1 IO-Link transceiver expansion board based on the L6364Q device
- X-NUCLEO-OUT04A1 industrial digital output expansion board for STM32 Nucleo providing a powerful and flexible environment for the evaluation of the driving and diagnostic capabilities of the IPS2050H-32 (dual high-side smart power solid state relay) in a digital output module connected to 5.7 A (max.) industrial loads
- NUCLEO-L073RZ development board embedding the STM32L073RZ 32-bit-ultra-low-power STM32L073xx microcontrollers incorporate the connectivity power of the universal serial bus (USB 2.0 crystal-less) with the high-performance Arm Cortex-M0+ 32-bit RISC core operating at a 32 MHz frequency, a memory protection unit (MPU), high-speed embedded memories (up to 192 Kbytes of flash program memory, 6 Kbytes of data EEPROM and 20 Kbytes of RAM) plus an extensive range of enhanced I/Os and peripherals
- FP-IND-IODOUT1 function pack featuring IO-Link demo-stack for X-NUCLEO-IOD02A1 and control software for X-NUCLEO-OUT04A1

Product summary	
STM32 Nucleo pack for IO-Link and power switch device applications based on L6364Q transceiver, IPS2050H-32 power switch and STM32L073RZ	P-NUCLEO-IOD04A1
STM32Cube function pack for P-NUCLEO-IOD04A1, with IO-Link stack, IODD	FP-IND-IODOUT1
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
Industrial digital output expansion board based on IPS2050H-32 for STM32 Nucleo	X-NUCLEO-OUT04A1
Applications	Factory Automation IO-Link connectivity

Description

The P-NUCLEO-IOD04A1 is an STM32 Nucleo pack composed of the X-NUCLEO-IOD02A1 and X-NUCLEO-OUT04A1 expansion boards stacked on the NUCLEO-L073RZ development board.

The X-NUCLEO-IOD02A1 features the L6364Q IO-Link device transceiver for the physical connection to an IO-Link master while the X-NUCLEO-OUT04A1 features an industrial digital output expansion board for STM32. The NUCLEO-L073RZ features the necessary hardware resources to run the FP-IND-IODOUT1 function pack and to control the transceiver and the power switch.

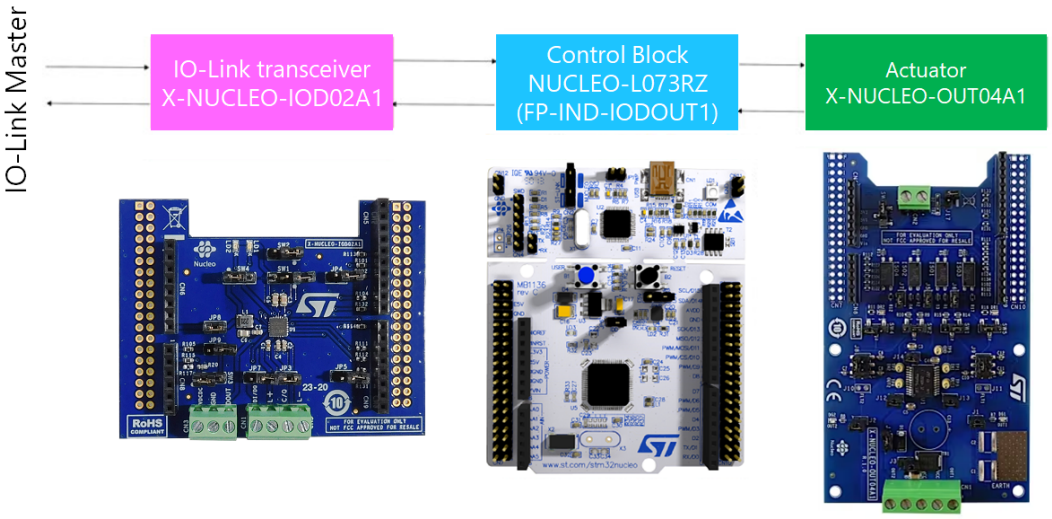
The FP-IND-IODOUT1 combines an IO-Link demo stack library (derived from X-CUBE-IOD02) with the X-CUBE-IPS and features an example of IO-Link device sensor and actuator node.

The P-NUCLEO-IOD04A1 can be used for evaluation purpose and as a development environment.

The STM32 Nucleo pack provides an affordable and easy-to-use solution for the development of an IO-Link and SIO applications for the evaluation of IPS2050H-32 high side capabilities together with the STM32L073RZ computation performance.

1 P-NUCLEO-IOD04A1 main blocks

Figure 1. **P-NUCLEO-IOD04A1 block details**



Revision history

Table 1. **Document revision history**

Date	Revision	Changes
27-Sep-2023	1	Initial release.