P-NUCLEO-IOM01M1

Data brief

STM32 Nucleo pack for IO-Link master with IO-Link v1.1 PHY and stack

Product summary	
STM32 Nucleo pack for IO-Link master with IO-Link v1.1 PHY and stack	P-NUCLEO-IOM01M1
IO-Link master evaluation board based on L6360 equipped with ST morpho connectors for STM32 Nucleo	STEVAL-IOM001V1
IO-Link communication master transceiver IC	L6360
STM32 Nucleo-64 development board with STM32F446RE MCU	NUCLEO-F446RE

Features

- STEVAL-IOM001V1
  - IO-Link master PHY based on L6360
  - Interrupt diagnostics pin
  - I²C and UART interface
  - SPI (slave) interface
  - 65 mA selectable (3.3 or 5.0 V) linear regulator
  - CQ (push-pull) and L+ (high side) switches
  - IQ additional IEC61131-2 type 1 digital input
  - L+ and CQ overload and overheating protections with non-dissipative cut-off function
  - QFN-26L (3.5x5x1 mm) package
  - Operating voltage range from 18 to 32.5 V
  - Additional high side switch for L+ heavy loads (IPS161H)
  - LEDs for status and diagnostics
  - Ground and V_{CC} wire break protections
  - EMC compliance with IEC61000-4-2, IEC61000-4-3, IEC61000-4-5
  - Equipped with ST morpho connectors
  - CE certified
  - RoHS and China RoHS compliant
- NUCLEO-F446RE
  - STM32F446RET6 32-bit Micro-controller based on ARM®Cortex®-M4 core (180 MHz max.) with 512-Kbyte Flash memory and 128 (+4) Kbyte RAM
  - Two types of extension resources: Arduino™ UNO Revision 3 connectivity and ST morpho extension pin headers for full access to all STM32 I/Os
  - Mbed-enabled (http://mbed.org)
  - On-board ST-LINK/V2-1 debugger/programmer with SWD connector: selection-mode switch to use the kit as a standalone ST-LINK/V2-1
  - Two push-buttons: USER and RESET

Description

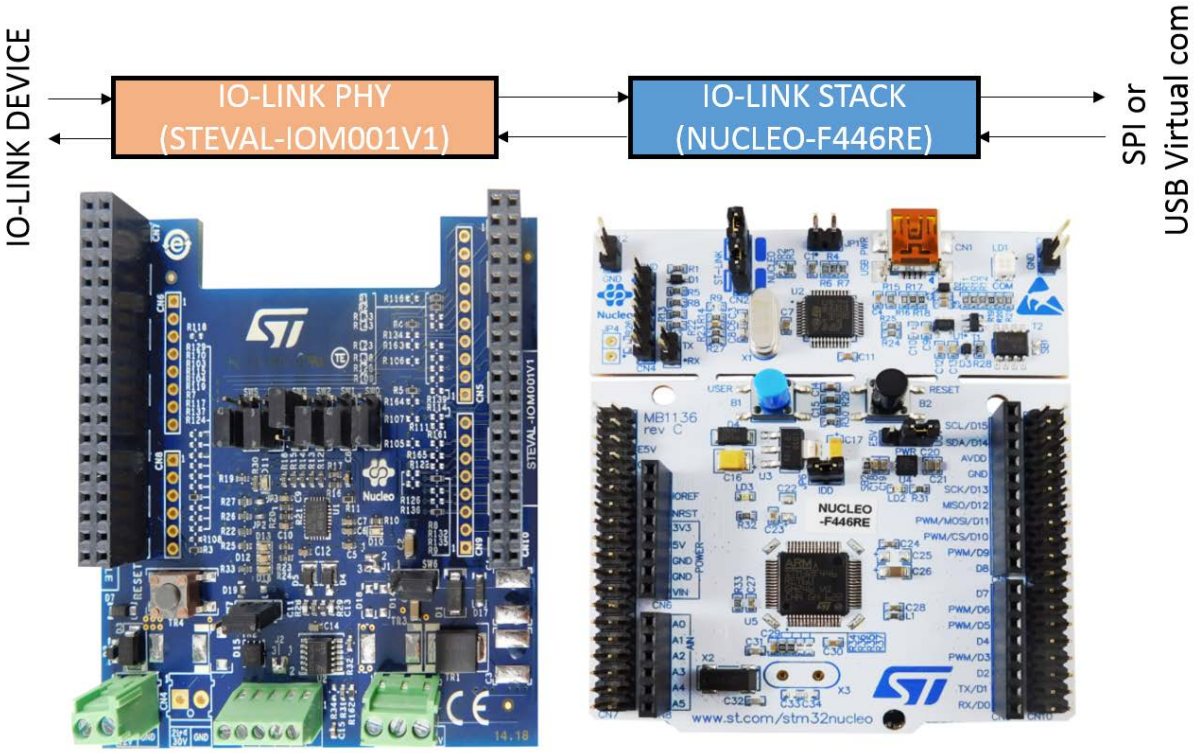
The P-NUCLEO-IOM01M1 is an STM32 Nucleo pack composed of the STEVAL-IOM001V1 and the NUCLEO-F446RE boards. The STEVAL-IOM001V1 is a single IO-Link master PHY layer (L6360) while the NUCLEO- F446RE runs an IO-Link stack rev 1.1 (developed by and property of TEConcept GmbH, license limited to 10k minutes, renewable without additional costs).

The STM32 Nucleo pack provides an affordable and easy-to-use solution for the evaluation of IO-Link applications, L6360 communication features and robustness, together with the STM32F446RET6 computation performance. The pack, hosting up to four STEVAL-IOM001V1 to build a quad port IO-Link master, can access the IO-Link physical layer and communicate with IO-Link Devices.

You can evaluate the tool via the dedicated GUI (IO-Link Control Tool©, property of TEConcept GmbH) or use it as an IO-Link master bridge accessible from the dedicated SPI interface: source code of demo project (Low-Level IO-Link Master Access Demo Application, developed by TEConcept GmbH) and API specification are available for free.

1 P-NUCLEO-IOM01M1 main blocks

Figure 1. **P-NUCLEO-IOM01M1 block details**



Revision history

Table 1. Document revision history

Date	Version	Changes
15-Jun-2018	1	Initial release.
04-Jul-2018	2	Removed schematic diagrams.