

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



Features

- IO-Link master stack v.1.1 (property of TEConcept GmbH):
 - renewable 10k minutes license
 - ready for new version update
- 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). IO-Link stack update is allowed exclusively by following the procedure described in UM2421 (freely available at www.st.com). Any other erase/overwrite of the pre-loaded stack makes impossible to restore it.

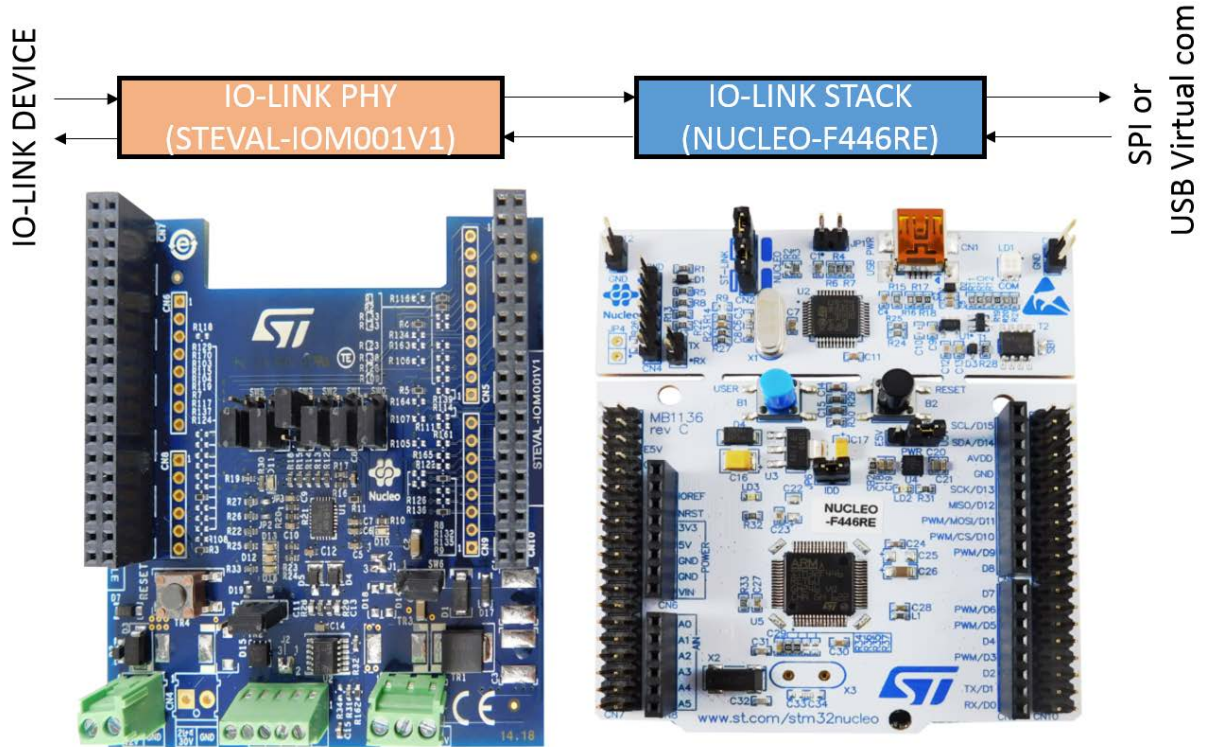
Product summary	
STM32 Nucleo pack for IO-Link master with IO-Link v1.1 PHY and stack	P-NUCLEO-IOM01M1
IO-Link master evaluation board based on L6360 equipped with ST morpho connectors for STM32 Nucleo	STEVAL-IOM001V1
IO-Link communication master transceiver IC	L6360
STM32 Nucleo-64 development board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

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.
02-Mar-2020	3	Updated cover page product summary table, features and description.

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