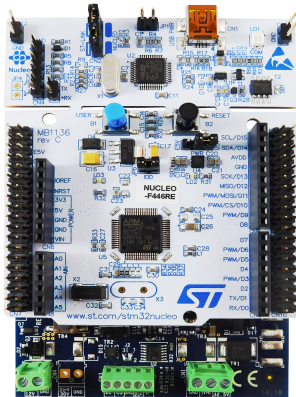


## STM32 Nucleo pack for IO-Link master with IO-Link v1.1 PHY and stack



### 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
  - I<sup>2</sup>C 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<sub>CC</sub> 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<sup>®</sup>Cortex<sup>®</sup>-M4 core (180 MHz max.) with 512-Kbyte Flash memory and 128 (+4) Kbyte RAM
  - Two types of extension resources: Arduino<sup>™</sup> 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](http://www.st.com)). Any other erase/overwrite of the pre-loaded stack makes impossible to restore it.

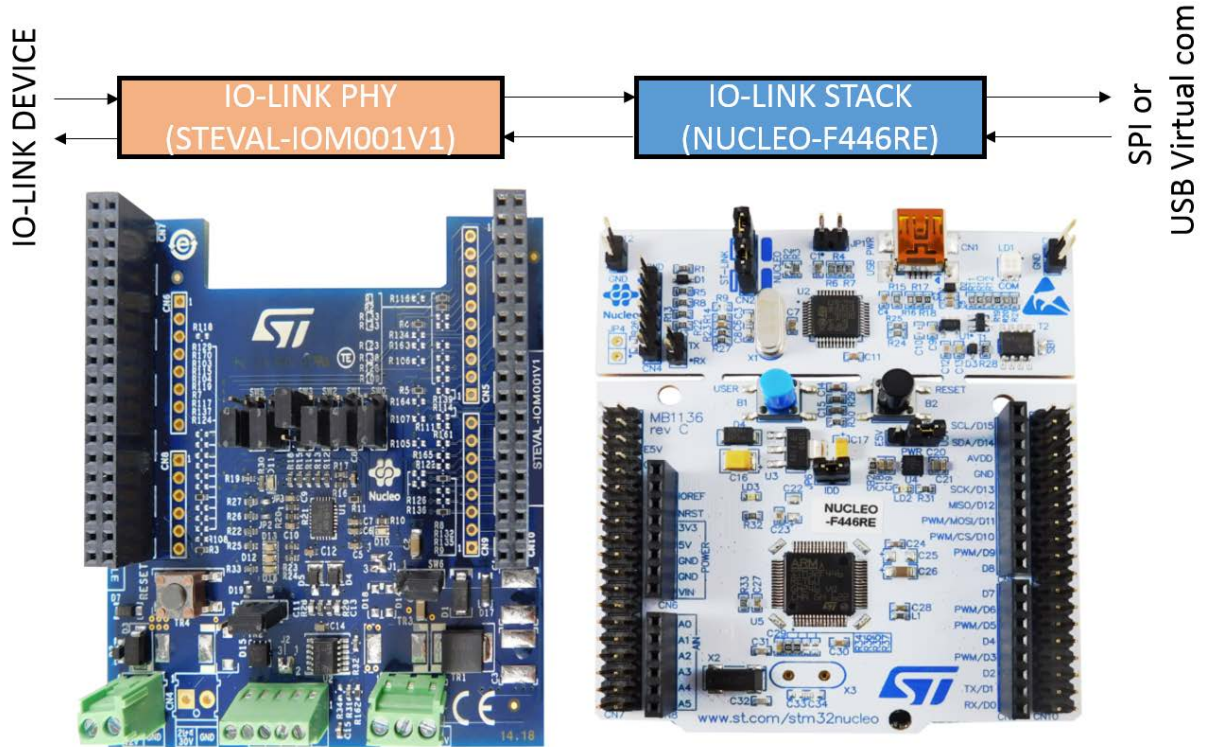
Product summary	
STM32 Nucleo pack for IO-Link master with IO-Link v1.1 PHY and stack	P-NUCLEO-IOM01M1
IO-Link master evaluation board based on L6360 equipped with ST morpho connectors for STM32 Nucleo	STEVAL-IOM001V1
IO-Link communication master transceiver IC	L6360
STM32 Nucleo-64 development board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