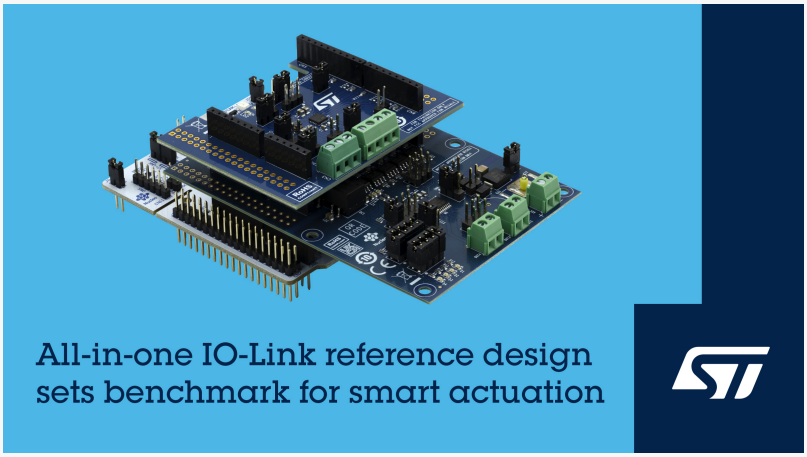
# STMicroelectronics’ modular IO-Link development kit eases creation of industrial-automation device nodes

*With software and actuator hardware included, ready to use*



ST modular IO-Link development kit

GENEVA, SWITZERLAND, May 20, 2025 /EINPresswire.com/ -- STMicroelectronics has released an IO-Link development kit that simplifies building actuators and sensors by providing all necessary hardware and software, including an actuator board containing an intelligent power switch.

By including the actuator hardware, ST’s P-NUCLEO-IOD5A1 kit goes further to help users leverage IO-Link’s powerful bidirectional point-to-point connectivity in all types of device nodes. Widely used in industrial-automation projects, the protocol enables rich interactions with sensors and actuators, including device configuration and diagnostic reporting as well as basic input/output data.

The P-NUCLEO-IOD5A1 box comprises an STM32 Nucleo microcontroller (MCU) main development board, a transceiver board, and the actuator board. The transceiver and actuator are stackable and connect to headers on the main board. This modular kit lets users quickly configure their IO-Link device and begin evaluation, leveraging the drivers and application examples included in the companion software pack.

The transceiver board (X-NUCLEO-IOD02A1) contains ST’s L6364Q dual-channel IO-Link physical layer IC, which handles communication with the IO-Link master and includes protection against common industrial hazards such as surges and reverse connection. The actuator (X-NUCLEO-DO40A1) has ST’s IPS4140HQ industrial 4-channel high-side power switch, which can drive 500mA loads and integrates thermal protection and per-channel short-circuit protection.

The STM32 NUCLEO-G071RB main board includes an STM32G071RB MCU with external hardware needed to control the transceiver and the power switch. The MCU runs ST’s IO-Link

demo stack library (X-CUBE-IOD02), included in the companion software function pack (FP-IND-IODOUT1). The pack also includes software for controlling the power switch (X-CUBE-IPS), as well as sample code to operate the board as a sensor or actuator node for evaluation.

The complete P-NUCLEO-IOD5A1 kit is available now from ST distributors and the eSTore, for $130.00.

For more information, please visit www.st.com/p-nucleo-iod5a1



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