

Industrial Ethernet to IO-Link Gateway for Controlling Edge Devices



Development Platform

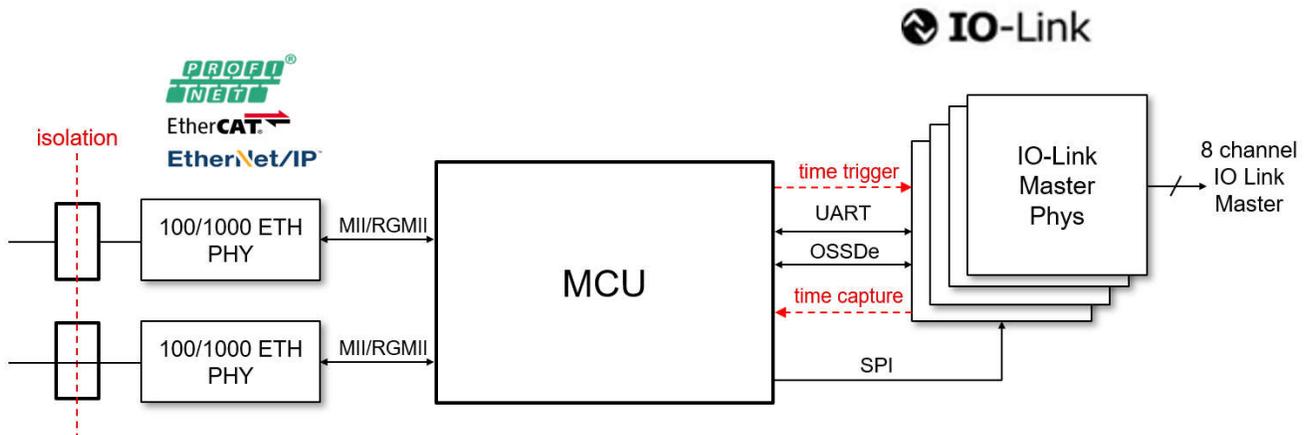


Figure 1. High-level Block Diagram

What is it?

The Industrial Ethernet to IO-Link Development Platform (DEV-IND-ETH-IOL) is a tailored combination of hardware and software designed to make it quick and easy to establish remote I/O connections with IO-Link through an industrial Ethernet protocol. This platform can be used to build a remote IO gateway to connect to PROFINET, EtherCAT, or EtherNet/IP. Developers can start with simple remote I/O connections and have the option to scale to more complex systems as needed.

Why is it needed?

Remote I/O communication is used in a wide variety of industrial automation applications especially where there is a need to effortlessly incorporate data acquisition and control, such as at the edge of the factory network. Each product uses software to manage and control the transfer of data through remote I/O according to the needs and complexity of the system. Preparing software to achieve a standardized form of communication can be tedious and time consuming, especially for developers with little to

no prior experience with industrial communication protocols.

The DEV-IND-ETH-IOL presents users with different combinations of hardware and software offerings to help take a product to market faster. TI's Industrial Communications Toolkit simplifies software development by providing PRU FW and documentation that can be used for integration with the third-party and customer stacks.

How do you get started?

Add all the required hardware sold from the TI store to your cart and purchase any required hardware needed from recommended external vendors. Determine if you need any optional hardware for your specific application, and purchased accordingly. While you are waiting for the hardware to arrive, read the online quick start guides and download all required software. To learn more about this development platform, before or after making a purchase, click the links in [Related Content](#). These links are to videos, white papers, and application notes related to the development platform or one of the key components.

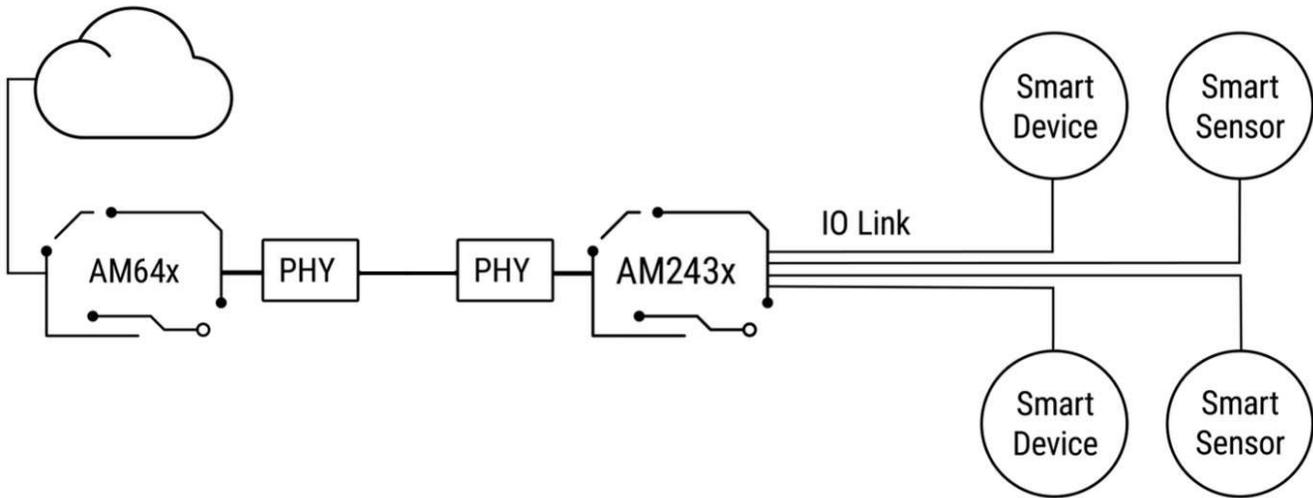


Figure 2. Example System Block Diagram

Related Content

Content Type	Title (linked)	Estimated Time
Blog Post	Factory automation design made simple with multiprotocol industrial Ethernet systems	5 mins
Pre-Recorded Webinar Video	Industrial Protocols webinar	20 mins
Application Note	Industrial Communication Protocols Supported on Sitara	30 mins
Academy	MCU+ Academy on Industrial Communications Toolkit	1 hour

Technical References

- Texas Instruments, [Eight-port IO-Link Master Reference Design](#)
- [IO-Link System Description](#), March 2018

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATA SHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, regulatory or other requirements.

These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to [TI's Terms of Sale](#) or other applicable terms available either on [ti.com](https://www.ti.com) or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.

TI objects to and rejects any additional or different terms you may have proposed.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2023, Texas Instruments Incorporated