



Improve Diagnostics and Reduce Wiring for Sensors and Actuators with IO-Link

How to achieve better diagnostics and reduce wiring for your devices

IO-Link is the first standardized IO technology worldwide (IEC 61131-9) for communication with sensors and actuators. The powerful point-to-point communication is based on the long established 3-wire sensor and actuator connection without additional requirements for the cable. So, IO-Link is not a fieldbus but the further development of the existing, tried-and-tested connection technology for sensors and actuators. IO-Link will work in any control system and Control Corporation will show you how. Come and see why you should implement IO Link in your system today.

1. Downtime reduction upon sensor failure scenario.

Many sensors come out of the box with default settings that are intended to cover some portion of the market but more often than not, since some of these are quite versatile, there are a number of settings that need to be changed before the device can be used. Typically, when the sensor fails it may take a while to get noticed and when it does get noticed it's often a quality problem by then.

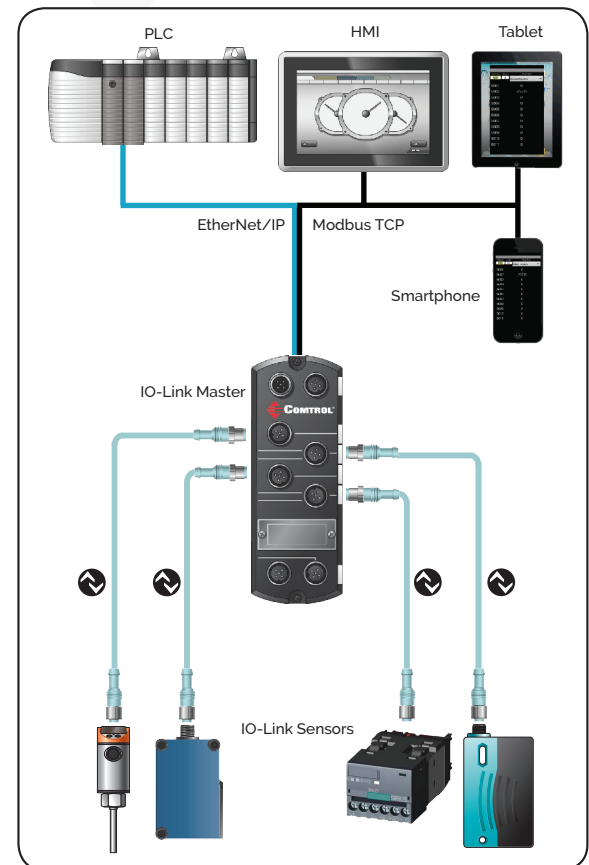
- If your sensor fails, IO-Link can give you all the information you need to find and fix that sensor, and even customize the replacement for you automatically.

2. Diagnostics

Sometimes your end device is very close by, but difficult to get to. There may be dangerous conditions in the immediate vicinity, or it may be located up high or in a tight space. Perhaps the conditions can be made more amenable by shutting down production and waiting some time, but this means you are losing money. Often you may find after waiting for the shutdown that the part in question is not the source of trouble which compounds the frustration even more. In other cases, access to the device may be great, but the site of interest is 1000 miles away from the person who built it.

- With IO-Link, you can view detailed diagnostics throughout your process control system, giving you the capability to put the most important information about the system right in front of the people who know the most about it, wherever they may be (mobile options included)!
- Once a problem is diagnosed, you can remotely reprogram your end device as easily as if you were holding it. OEMs are increasingly providing a wider variety of customizable parameters which can be read and if allowed, written via IO-Link.

Control's IO-Link Masters provide diagnostics about both sides of a given connection: You will get information about the IO-Link connection that is running from the IO-link master to the end device AND you will get detailed information about the Industrial data protocol connecting the IOLM to the PLC or SCADA- whether it's using EtherNet/IP™, Modbus TCP, or PROFINET IO.



3. Remote Parameterization

- Boosting both control system awareness and customizability, IO-Link's SPDU (or ISDU) use allows the sensor or actuator OEM to move far beyond the traditional model of one way connections that only transmit the core data; An OEM can make any aspect or property of their device accessible over IO-Link if they so choose.
- Without IO-Link, OEMs who saw value in doing this typically had to design an on-board screen interface with some sort of push buttons, or they had to use dip switches or other on board hardware, or the device could be configured only by taking it offline to connect it perhaps to PC based custom software which would configure their device before being returned to service where it would transmit (only its core data) by the traditional methods. IO-Link parameters can be written to remotely while the device is installed and in use.
- The ability to do remote parameterization can be combined with the support for remote diagnostics. Troubleshooting and fixing problems with a system can all be done remotely.
- Additionally, for those processes or systems where a "recipe" architecture is appropriate, IO-Link sensors and actuators can be remotely parameterized by the PLC in bulk via a simple selector switch or other minimal operator action. This powerful feature could be used to maximize quality or increase duty cycle via extended capital versatility without the burden of reconfiguring each device one at a time.

4. Efficient Wiring and connection methodology

Multiplexing can save a lot of money, and for anyone with a control system that covers more area than a lab bench there is potential to choose a wiring scheme that minimizes the total material and labor costs, not to mention complexity as well. If you have 20 motor starters at the bottom of a hydroelectric power production dam, and you have a control room at the top you could run individual "spool" wire connections from your PLC cabinet down to each MS individually, or you could just run an Ethernet cable to an IO-Link master and then connect all 20 motor starters to one IO-Link master. This saves a tremendous amount of wire and installation time.

IO-Link gateways allow you to connect multiple smart devices (sensors or actuators) via ONE IP address.

CONTACT AND SUPPORT INFORMATION

Warranty Information

Control offers a 30-day satisfaction guarantee and 5-year limited warranty.

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