

SMC Expert Article – Industrial communications

Adopting IO-Link, the easy way

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Despite the many advantages of an IO-Link system - such as standardised and reduced wiring, increased data availability, remote configuration and monitoring, simple device replacement, and advanced diagnostics – we know that some of you are reluctant to adopt this technology due to the belief that configuration and programming is complex. Well, today SMC has the product solutions and in-house expertise to make your transition to this cost-effective communication protocol far simpler and quicker than you could ever imagine.

IO-Link (IEC61131-9) is a vendor-agnostic serial communication protocol that allows for the bi-directional exchange of data from sensors, switches, valves and actuators (that support IO-Link). These remote devices connect to an IO-Link unit that can transmit this data over various networks, fieldbuses or backplane buses, making the data accessible for immediate action or long-term analysis via a PLC or HMI, for example.

A different strategy

Our IO-Link unit takes a different approach to those from many vendors. Integrated into an SMC manifold as additional modules, the advantages of our IO-Link unit include simpler design and wiring, closer proximity to actuators, and a unique IP address.

You can integrate both I/O and analogue signals, whether the remote devices are from us or other suppliers. The unit's modularity allows the addition of up to nine communication boards, while cost savings are likely as far less communication setting is necessary.



SMC's IO-Link Unit – EX600-LAB1/LBB1 Series
Increase the capabilities of your communications

Simple implementation

Our webserver enables you to configure IO-Link remote devices simply by integrating communication parameters. The process is very simple: connect a PC to the communication unit with an ethernet cable and enter the unique IP address. Once the ports of the IO-Link unit appear, select the port on which to connect the IO-Link device. Following connection, a graphical interface displays all of the integrated devices on the IO-Link unit, giving you easy visibility.

This simple solution enables data communication to the whole network and provides you with useful features like back-up and restore, allowing instant replacement of IO-Link devices while retaining all parameters.

IO-Link is highly suitable for cyclic communication: an IO-Link device in cyclic mode is functional in the same way as a standard device. Sure enough, you should program more advanced functions using a PLC, which brings advantages such as the potential to adopt predictive maintenance strategies and accelerate ROI. However, the process is less instantaneous. We're talking about acyclic communication as we'll send a request to read and record data. However, even if this level of support is required, we can make it quick and easy thanks to the availability of proven IO-Link device configuration software and PLC API libraries, for instance.



SMC's Step Motor Controller with IO-Link and STO Function – JXCLF Series
Broader control now with IO-Link

The strongest link

Ultimately, whatever the application or ambitions of the project, here at SMC we have the technologies, know-how and experience to ensure adopting IO-Link is fast and simple. The benefits are likely to be notable, particularly if your production necessitates frequent changeovers or if you want to reduce your non-production costs related to maintenance times. As a final point, deploying IO-Link does not need to be an all-or-nothing approach, it is possible to build it flexibly and gradually as time and budgets allow.

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