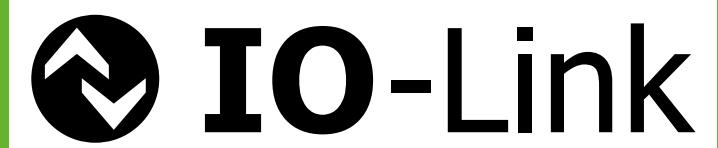


White Paper



IO-Link

EtherNet/IP®

PROFINET®
BUS

PROFINET®
NET

Just like in sports, the last few feet are always the hardest, – a good reason to use IO-Link in the last few feet of the automation pyramid.

Make the last few feet significantly easier with IO-Link from Murrelektronik.

IO-link is not a field bus, but the evolutionary development of the existing, proven connection technology for sensors and actuators, i.e. IO-link devices.

Advantages for both the machine manufacturer and the operator are the main focus with IO-Link.

1. Machine Manufacturer

- 1.1 Easy wiring even for complex of devices: 3-wire or 5-wire unshielded with standard cable
- 1.2 Choose between binary signals or analog values. Or both.
- 1.3 Data stored in the controls and in the master
- 1.4 Change of parameters can also be done online
- 1.5 Offline parameterization
- 1.6 Data can be copied
- 1.7 Easy device exchange
- 1.8 Increased interference resistance
- 1.9 Loss-free analog data transmission

2. Machine Operator

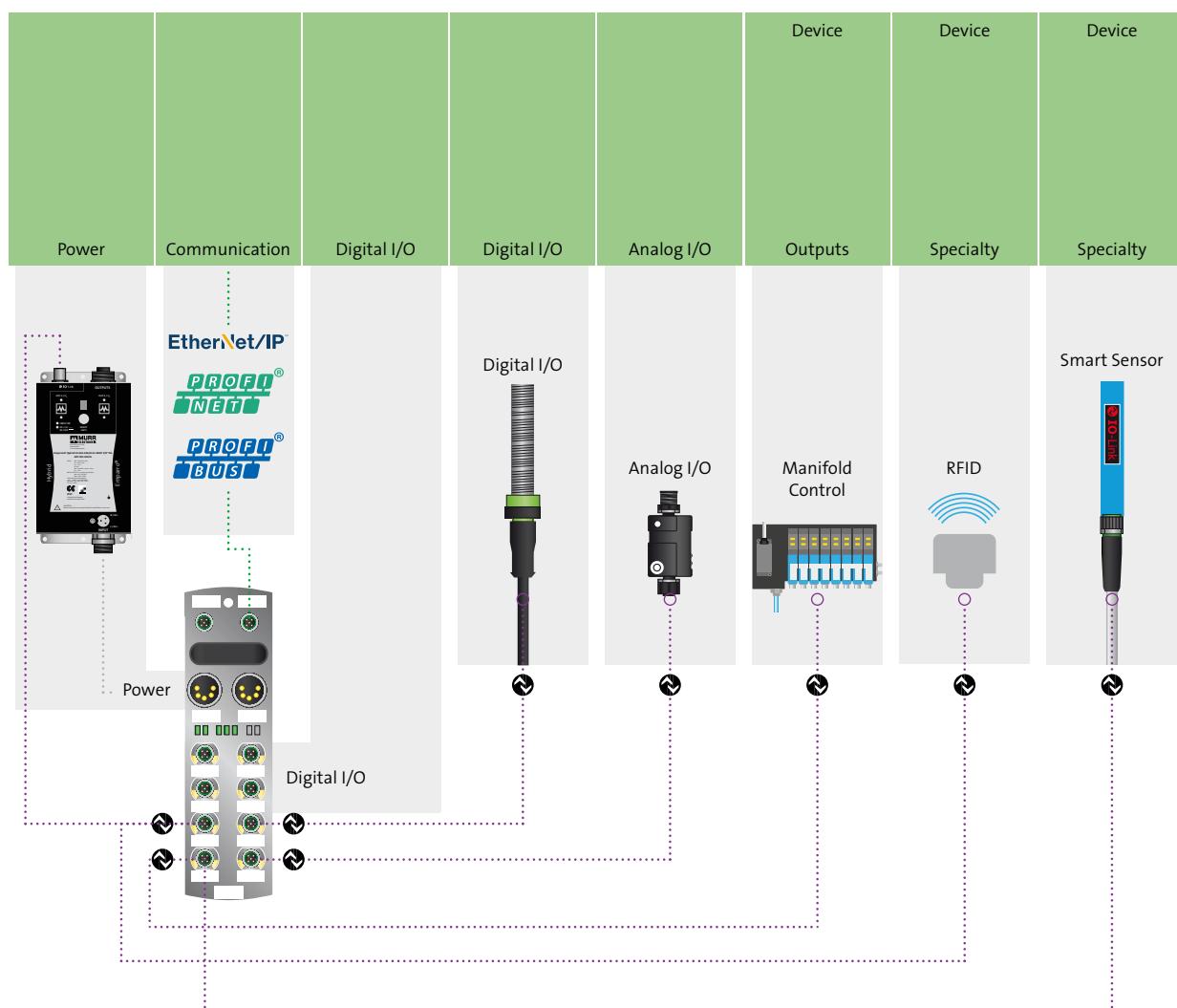
- 2.1 Easy device exchange
- 2.2 Simple diagnostics
- 2.3 Easy data evaluation
- 2.4 Parameters can be changed during operation
- 2.5 Increased machine run-time

IO-Link: the information superhighway on the lowest level

Simple configuration with IODD on Board

With the IODD on Board feature, you go straight to your destination. It's made to easily incorporate IO-Link devices in installation solutions. Some advantages: fast integration, short commissioning times and flexibility.

These are possible thanks to simple integration through IODD on Board, an innovative technology from Murrelektronik. The sensor and actuator parameters are saved to the IODD file (IO Device Description) and the GSDML-data is directly embedded on the Murrelektronik field bus modules MVK Metal and Impact67. When the devices, for example IO-Link sensors or IO-Link valve manifolds, are connected, they have immediate access to the saved data – no manual configuration or special tools required. Simply use the pre-existing controls software.

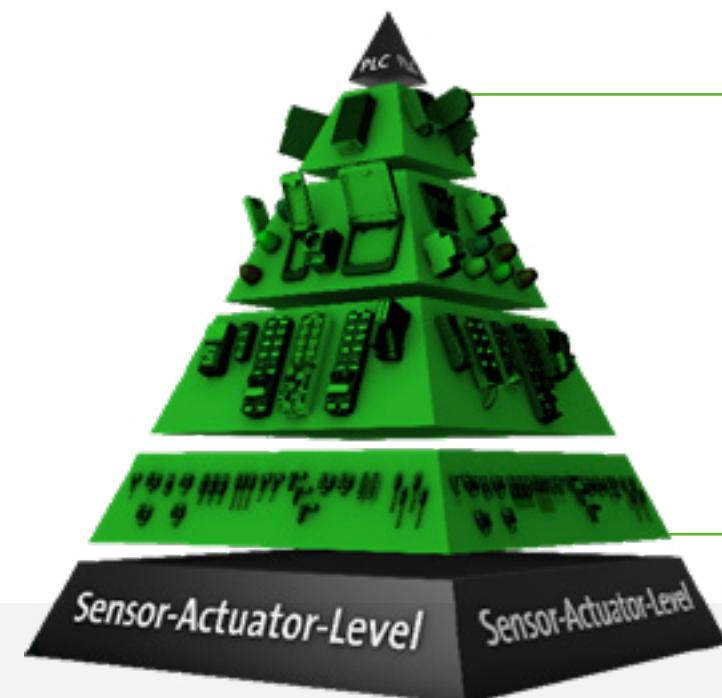


Simple configuration with IODD on Board

Until now, each individual new IO-Link device had to be integrated into the software of the IO-Link master. The new method with IODD on Board makes the process much simpler and clearly proves that the controls is the best place to save configuration data. Serial machine builders profit the most from this advantage: By using copy & paste, the existing configurations are duplicated on other systems and machine controls.

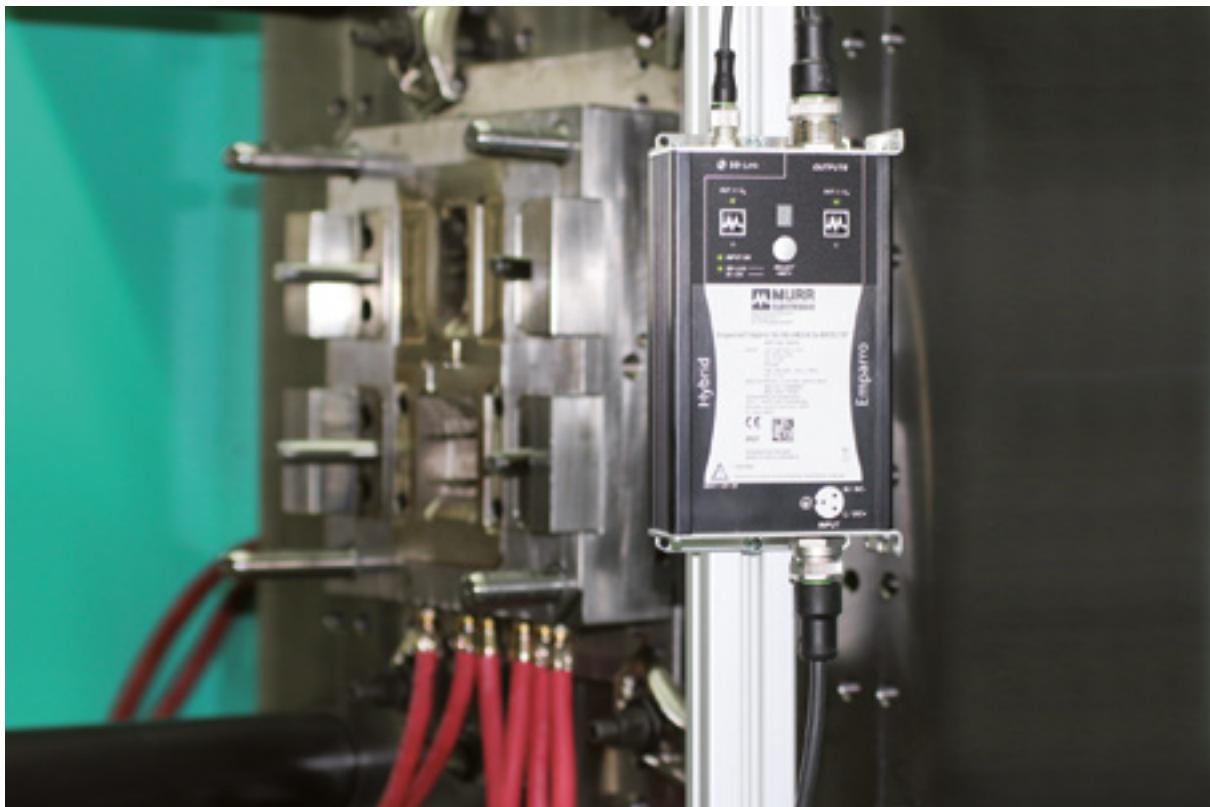
It is particularly interesting that the parameterization of the devices can already be done in the office and no longer have to be performed at the start-up of the machine on the shop floor. The parameterization data of the sensors and actuators is displayed in plain text (and not as HEX values) – this makes it easy to maintain an overview. It makes the validation of machines and systems much easier.

The freely-configurable modules also make it possible to save time in special machine engineering. The autoconfiguration mode makes a start-up possible within a short time because the configuration of the digital I/Os is no longer necessary and the channels will be set up exactly as predefined from the controls.



connect+ivity® *by Murrelektronik*

Murrelektronik creates the most **cost-efficient connections** from the controls to the sensor/actuator level. Connectivity represents transmitting **information, signals** and **power** effectively, all powered by Murrelektronik.



From the field: Via the IODD of Murrelektronik's new Emparro67 Hybrid on-machine power supply module, the current values of the Mico channels can be configured and all the diagnostic data can be communicated with the controls – Murrelektronik's IO-Link masters and devices easy to use.



Emparro67 Hybrid



White Paper by

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About the Author

Wolfgang Wiedemann has been Head of Application Sales Consulting at Murrelektronik's Headquarters in southwestern Germany since April 2012 where he oversees Murrelektronik's global pre-sales activities. He has over 20 years

of experience in machine tool building in diverse industries and electronic, pneumatic and fluid fields, as well as experience in programming, commissioning and is a PLC safety expert.

About Murrelektronik

Murrelektronik is an internationally operating family-owned company in the automation technology industry with over 2,700 employees. The mission of Murrelektronik is to optimize machine and plant installations, increasing the competitive advantage of our customers. Decentralization is our core competence: we optimize the connection between the control cabinet level and the sen-

sor-actuator level in machines and systems with proven concepts and new technologies. Working closely with our customers is essential to develop individual solutions that deliver value in machine installations. Readily available products worldwide complete Murrelektronik's service portfolio and the customer experience.