

# WEST

## IO-Link

A simple way to connect sensors and actuators!



Electronics  
Hydraulics meets  
meets Hydraulics  
Electronics

# WEST

## What is IO-Link?

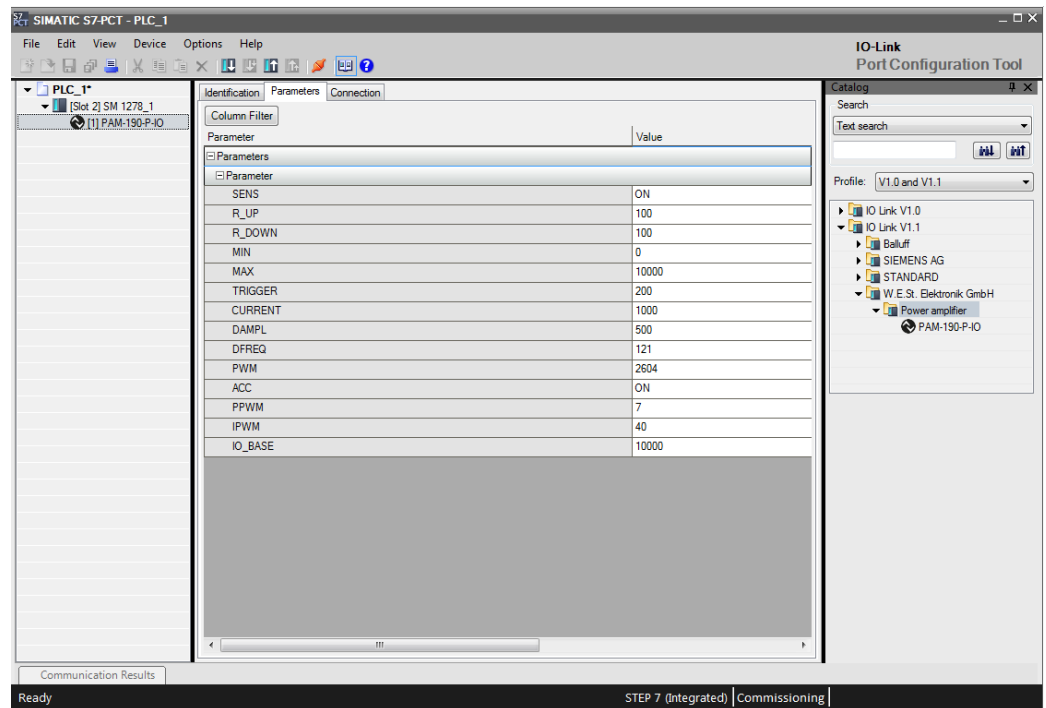
IO-Link is a globally standardized point-to-point interface (IEC 61131-9) for communicating with sensors as well as with actuators. The aim of the IO-Link community is to develop and market IO-Link as a technology. IO-Link is accepted across many manufacturers.

A variety of sensors from different manufacturers is now available. In the field of actuators, the development is progressing much more slowly. This interface is ideal for controlling of proportional valves. Besides the very inexpensive implementation, the following advantages should be highlighted:

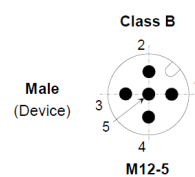
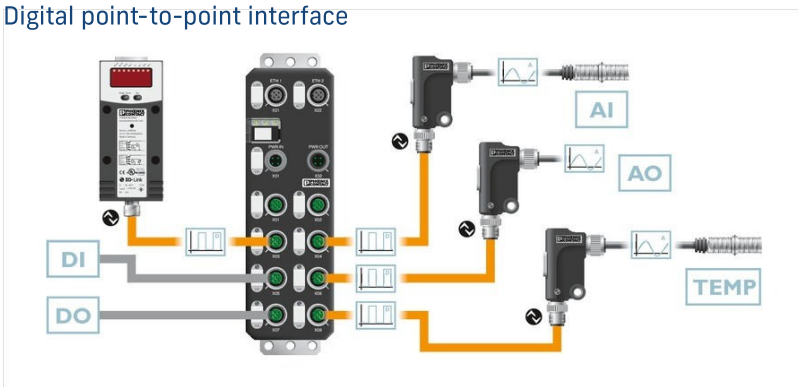
- digital and robust interface
- simple wiring
- parameterization directly via PLC (no special software required)
- automatic parameterization in case of a device replacement
- diagnosis and feedback
- galvanically isolated power supply between IO-Link interface and the power stage

In the age of digitization and Industry 4.0, the transition to the digital interface is unstoppable. IO-Link is a point-to-point connection in contrast to fieldbuses, and can therefore replace analog interfaces with little effort.

Typical parameterization via PLC. Advantage: All IO-Link devices can be addressed via the same parameterization software.



## Digital point-to-point interface



Pin	Signal	Designation
1	L+	Power supply (+)
2	I/Q P24	NC/DI/DO (port class A) P24 (port class B)
3	L-	Power supply (-)
4	C/Q	SIO/SDCI
5	NC N24	NC (port class A) N24 (port class B)

easy to connect  
by preconfigured cable with M12 plug

## Our concept

### Plug amplifier with IO-Link interface

This plug amplifier offers the same possibilities as our analog standard plug amplifiers. The advantages offered by the IO-Link interface are:

- Connection compatible with the IO-LINK Standard Class B. Cabling errors are thus eliminated.
- Inexpensive cabling, no shielding necessary
- Standard M12 connector
- Digital transmission of setpoints and control signals
- Digital feedback of actual values and status signals

Suitable for valves of the following manufacturers:

BOSCH REXROTH

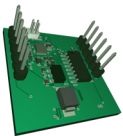
PARKER

HYDAC

DUPLOMATIC

and many more

## IO-Link Gateway



In order to be able to implement IO-Link in different products very quickly, a gateway with galvanically isolated interface has been developed. On this gateway a 32 bit XMC1400 processor operates, which offers a sufficient power reserve.

- XMC1402 processor
- EEPROM
- IO-Link transmitter
- Galvanically isolated SPI interface

This gateway can easily be integrated into any power amplifier (modules or OBEs).



Amplifier plug with IO-Link

## Product ideas:

IO-Link is not limited to sensors and power plugs for proportional valves. Devices with IO-Link interface can be designed for the control cabinet (IP-20) and also for switching valves.

Again, the main advantage is the very inexpensive coupling to the machine control and the better and more robust communication. Isolation amplifiers can completely be eliminated.

### Examples:

- PAM-199-P-IO (universal power amplifier IP-20 and IP-67)
- Plug amplifier for switching valves with two power outputs
- Position and pressure control module
- Pump control module





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We offer an extensive product line for all typical applications, from simple power amplifiers to p/Q regulated press control systems, up to multi-axis closed loop synchronization control systems. Custom developments for the clients are one of the strengths and many products for our well-known hydraulic manufacturers are being equipped with "brand labels". Premium quality, extremely short delivery times, flexibility, as well as fast assistance in case of emergencies – without the usual red tape – is what keeps the customers very satisfied.

Besides electronic products, W.E.St. Elektronik GmbH also offers competent support in the application of proportional control valves.

### Application areas

The sophisticated design does not only address one specific application area but rather focuses on the universal use. Although, emphasis is put on industrial applications, however, the power amplifiers can be found in mobile as well as in marine applications (with GL approval).

### Our Products

<b>Analog and digital power amplifiers</b>	universally adaptable, for the control of various proportional control valves. The completely digital modules distinguish themselves through their high flexibility and fault diagnosis.
<b>Positioning modules</b>	which are optimized for fast moving cycles and highly dynamic control systems.
<b>Pressure controlling</b>	with pressure valves control valves and variable displacement pumps with simple and robust control behavior.
<b>Synchronization modules</b>	for synchronized control systems in bypass or as a synchronized position control system with integrated pressure limitation control (optional use).
<b>Pump Control</b>	systems for various displacement and servo pumps.
<b>Fieldbus connections</b>	for the most of our control modules. The products support CAN Bus, Profibus, ProfiNet, EtherCAT and various various Ethernet versions.

### Our additional services:

Development of custom electronics according to your specification

Planning and production of electronics

Training for our standard products as well as training for special subjects

Pictures: PHOTOmotics

