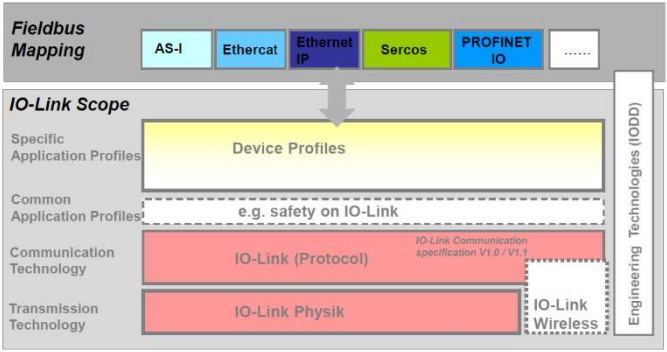
IO-Link Master

Idea: Standardize Fieldbus mapping for each Fieldbus



What is an IO-Link Master?

An IO-Link master is a gateway to the upper level system, which typically is a fieldbus. Other upper level systems can also be SPI, USB, UART, Ethernet or Can. This Gateway application maps between IO-Link data received from IO-Link sensors and IO-Link actuators to the upper level system. The mapping is part of the work of the master manufacturer and is not part of the IO-Link specifications. Therefore, the mapping specification has to be handled by the corresponding fieldbus organization. Publicly available fieldbus mappings are available for Profibus/Profinet, EtherCat, Sercos, ASI and Ethernet IP, for example.

Each master port can be used for an IO-Link device. These device parameter settings could easily be changed with minimal effort. Besides also sensors with switching output work on IO-Link ports.

SMI

What is SMI?

- SMI is an abstract interface that specifies concrete data structures to control IO-Link Masters
- SMI is located on top of the IO-Link Master Stack
- SMI supports master access from multiple clients
- SMI supports multiple services linked basic master control features in a standardized way

What services does SMI offer?

- Master Identification (VID, serial number, features)
- Port Configuration (Write/Read)
- Port Status information (Read)
- Datastorge <-> Parameterserver exchange
- Device Parameter (batch) Write/Read
- Device PowerOff/On (Write/Read)
- PDIn, PDOut (IQ, CQ) (Write/Read PD)
- PDInOut (IQ / CQ) (Sniff PDIn/Out)
- PDReadbackOutIQ (Get IQ values)