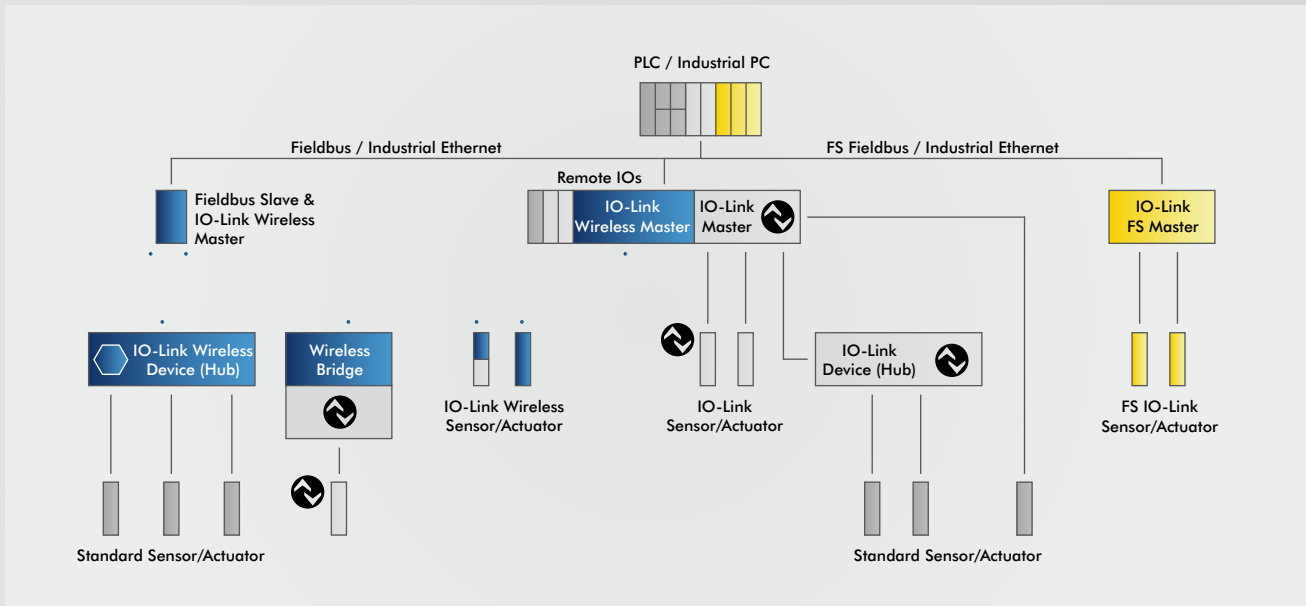


IO-Link

Stack solutions around the new communication standard



Future Proof Technology



Interoperable network architecture: IO-Link, IO-Link Wireless and IO Link Safety

Wired

As soon as the realization of intelligent concepts in mechanical engineering and plant manufacturing is concerned, there is no way around IO-Link today. KUNBUS – specialist and technology provider for IO-Link – offers field device manufacturers the complete IO-Link range and helps them to quickly and easily enter the world of IO-Link, IO-Link Safety and IO-Link Wireless and integrate these technologies into their system environment. Which protocol stack you ever need, you will find it here.

IO-Link

IO-Link is an intelligent, manufacturer-independent and universal point-to-point communication system (according to IEC 61131-9), that enables transparent cyclic and acyclic data access from the upper level communication systems or PLCs to the actuator/sensor level. It is an open, standardized and cost-effective system, that ensures greater efficiency at all levels.

In detail, such a system consists of an IO-Link Master and one or more IO-Link Devices (e.g. sensors, actuators, valves or IO modules), which are connected via classic, unshielded, three-wire cables. Thanks to IO-Link, it is possible to integrate all sensors and actuators, conventional analog and binary standard sensors as well as smart digital IO-Link sensors. The Devices are able to exchange information about themselves, their status and process data and automatically save parameter data.

Our protocol stacks are available for both Master and Device development. In order to make your approach to the IO-Link product development process as easy and effortless as possible, we offer you so-called Development Toolkits (DTKs), which can be run directly and spontaneously with an example application. In addition, we offer interface solutions for the seamless integration of IO-Link Master into the higher fieldbus or industrial Ethernet level.

KUNBUS IO-Link DTKs

IO-Link DTK Master & Device (based on STM32)

IO-Link DTK 8 Port Master (based on Sitara AM4379)

IO-Link DTK Device (based on MSP432)

IO-Link Configuration Tool

Wireless

IO-Link Wireless

IO-Link Wireless is an extension of IO-Link on the physical level and is interesting for all those who do not see their expectations regarding flexibility, mobility and expandability sufficiently fulfilled with the wired IO-Link version. IO-Link Wireless creates real added value compared to its wired counterpart, especially in harsh industrial environments, difficult to access or highly sensitive areas.

Up to 40 intelligent and complex actuators or sensors (so-called Devices) with a maximum latency of 5 ms can be connected to an IO-Link Wireless Master. The simultaneous operation of WLAN systems is also possible.

The backwards compatibility with factory and process automation protocols is an important key feature for us. So, users do not have to replace their existing IO-Link system when installing IO-Link Wireless, but can integrate IO-Link Wireless seamlessly into their existing, wired system.

We have chosen the SimpleLink™ CC2650 microcontroller from Texas Instruments for IO-Link Wireless. Compared to other microcontrollers on the market, the CC2650 offers high performance at very low power consumption. The integrated

Cortex-M3 of the CC2650 enables a single-chip design without a separate controller. The hardware footprint and costs can be significantly reduced.

For a seamless integration of an IO-Link Wireless Master into the superordinate fieldbus or industrial Ethernet level, various interface solutions are available for all common industrial network protocols, such as PROFINET, EtherNet/IP, EtherCAT and PROFIBUS. These solutions support you in successfully connecting your devices, putting them into operation and thus exploiting their full market potential.

KUNBUS IO-Link Wireless DTKs

IO-Link Wireless DTK – 5 Track Master
(based on TI SimpleLink CC2650)

IO-Link Wireless DTK – Single Track Master
(based on TI SimpleLink CC2650)

IO-Link Wireless DTK – Device
(based on TI SimpleLink CC2650)

IO-Link Wireless Configuration Tool
(Configuration of the IO-Link Wireless Masters and Devices)

Safety

IO-Link Safety

IO-Link Safety is the latest extension of IO-Link and can be used to realize safety solutions up to SIL3. The safe IO-Link Safety Master (FS Master) is the central unit and acts as a gateway to an higher level system with higher FS PLC/FSCP (Functional Safety Communication Profile). At the same time, the FS Master communicates via the standardized IO-Link Safety Protocol with the safe field devices (FS Devices) of the field level.

Similar to IO-Link, IO-Link Safety is also fieldbus-independent, i.e. designed neutrally, and can therefore be adapted to all fieldbus safety protocols.

Furthermore, the configuration effort is low. The Safety Devices are parameterized via a so-called „Dedicated Safety Tool“. With IO-Link Safety, it is possible to reliably record a large number of analog measurements. The safety controller can then decide whether to switch off or stop safely.

Our IO-Link Safety solution, previously validated by the TÜV-Süd technical inspection association in Germany, was developed in cooperation with PILZ, the leading supplier of safe automation technology. Our Safety stack supports you

right from the early design phase of your product development and ensures that IO-Link Safety can be seamlessly integrated into other fieldbus safety protocols. For an easy integration into your own safety process, you receive our package together with detailed integration instructions and a safety manual.

If you have any questions or need further assistance, we guarantee a central support service.

KUNBUS IO-Link Safety Extensions

IO-Link Safety Extension Package

IO-Link Community

IO-Link was developed from the beginning by the IO-Link Consortium, an association of leading suppliers of industrial automation products. The number of companies implementing IO-Link into their components is continuously increasing.

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