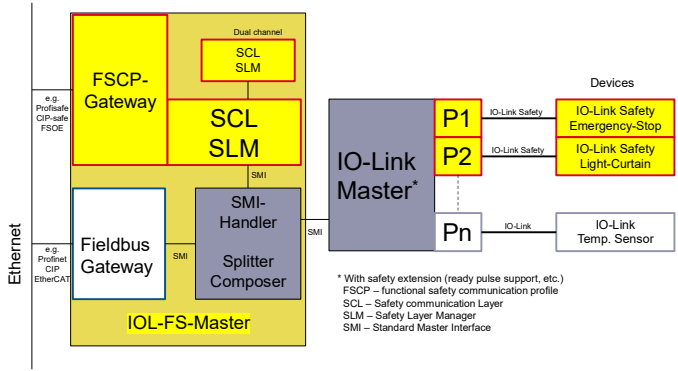
TEConcept

Use IO-Link
Universal · Smart · Easy

IO-Link Safety Master Stack



Overview

The TEConcept IO-Link Safety master stack provides a simple way to extend a regular IO-Link Master to an IO-Link Safety Master. The regular IO-Link Master as part of the IO-Link black channel only needs minor modifications to support, for example, ready pulses, but it does not contain safety related elements.

Functional Description

The FSCP (Functional Safety Communication Profile) Gateway exchanges safety related process data with the IO-Link Safety Communication Layer (SCL) and the related Safety Layer Manager (SLM). For SIL3 support it is highly recommended to implement SLM and SCL with two channels redundantly.

A Fieldbus-Gateway is added to exchange non-safe process data as well as configuration, status information.

SMI handler and Splitter Composer are extensions of the IO-Link black channel and responsible for routing SMI services handling of safe and non-safe process data.

The TEConcept solution of the IO-Link Safety Master Stack supports multiple architectures. It support the re-use of an existing IO-Link Master with SMI support, but also architectures where the IO-Link Master and the fieldbus gateways share the same MCU.

IO-Link FS Master Stack features

- SMI communication between blocks
- Module certification from named body in preparation
- Support of IO-Link / IO-Link FS V1.1.5

Advantages

- Reuse of existing IO-Link Master Architectures with SMI interface supported
- Clear separation between safe and non-safe parts
- Hardware independent implementation
- Simplified Assessment of the IO-Link FS Master due to use of pre-certified software module

Restrictions

- OSSDe requires legacy FS-DI or FS-DO support

Deliverables

- Pre-certified IO-Link Safety Master Stack
- Quality manual
- Master Tool Windows Application (for development purposes) with Device Tool Interface
- Development support (optional)