



Device Stack Extension Bootloader

Overview

In 2016 the IO-Link community published the BLOB Transfer and Firmware Update profile for the first time. This profile supports firmware updates via the IO-Link interface. It is fully compliant to the IO-Link V1.1.x specification. Thus, every standard IO-Link Master can be used to update the firmware of an IO-Link device, if the master is controlled by an appropriate software tool that can read and process the specified firmware update files. The firmware update files can be generated by a tool which is part of the delivery package.

The bootloader transfers a binary image to the device. It receives and checks the image data. Post-processing (de-compression, decryption etc.) and the storage of the image data is device specific. The bootloader provides an appropriate extension interface.

Functional Description

The bootloader contains a minimized IO-Link Device stack and runs as a standalone firmware on the IO-Link device. It updates the so-called technology firmware (TFW) which contains the complete Device Stack and the Device application.

Features

- Complies to Firmware-Update profile V1.2 (Sept. 2024)
- Can be added to an existing IO-Link Device
- Tolerant to power failures and transmission errors during the update process
- Footprint: RAM: ~2.5 kB / Flash: ~12 kB
- Supported development platforms: Keil, Eclipse/GCC, IAR

Deliverables

- Buyout license for Firmware Update Bootloader
- Documentation with installation manual
- Compiler & linker example setups
- Firmware update package creator tool

Additional Services

- Demo Device with bootloader
- Software/Hardware design support
- Conformance tests

