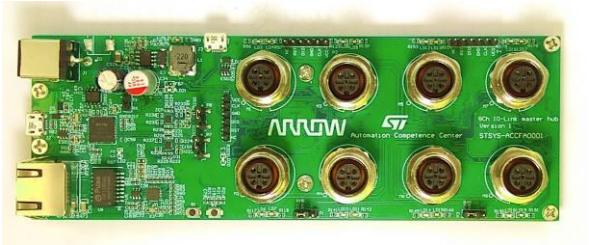
Design ID: 2021W001 Release date: Jan-2021

IO-Link 8-Channel Master Hub Solution

Description



The IO-Link 8-Channel solution is designed to demonstrate Arrow's IOLM4P 4 ports master controller powered by STM32L431 SoC. 2 pieces of IOLM4P are used to implement this 8-channel solution. An external host based on STM32F746ZG is used to manage and control these 2 pieces of master controllers. User applications runs on the STM32F7 SoC and the complex IO-Link master stacks will be handled by the Arrow IOLM4P master controller. This solution comes with demo application showing the simplicity to connect to 8 IO-Link devices via STM's L6360 – the IO-Link communication master transceiver IC.

In addition, the solution comes with quad SPDT switch STG3693QTR so that user can switch the control from STM32F746 host controller to FT2232H USB-SPI interface chip. The solution can then be connected to a Windows PC running TEConcept's Control Tools software to perform IO-Link master control/firmware update.

Advantages: Support total 8 channels of IO-Link devices, dual-control architecture (PC or embedded host)

Key Features

- Support 8 channels of IO-Link devices
- Dual-control architecture (PC or embedded host)
- Demo application included
- USB/Ethernet interface reserved for expansion
- Support TEConcept Control Tools for GUI control and master controller firmware update

Core Chips

- **STM**: STM32F746ZG; ARW- IOLM4P-STM32L4 (STM32L431RBT6); L6360; VN808-32-E; STG3693QTR
- **Microchip:** LAN8742A
- **FTDI**: FT2232H
- **Amphenol**: M12A-05PMMC-SF8B20
- **Pulse:** E5J88-14L0D2-L; HX1260NL
- **muRata:** CSTNE8M00G520000R0; CSTNE12M0GH5L000R0; WMRAG32K76CS1C00R0

Application

- IO-Link Master Hub
- PLC
- Factory automation

Block Diagram