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IO-Link 8-Channel Digital Input Hub Solution

Description

The IO-Link 8-Channel digital input hub solution consists of a dual channel transceiver L6364, an Arm Cortex-M0+ MCU STM32G071 and a high-speed digital 8-channel inputs current limiter SCLT3-8BQ7.
This is a non-isolated solution, it provides power supply to the system as well as the external devices directly. User applications and complex IO-Link stacks runs on the MCU STM32G071. while L6364 acts as a physical layer when the board is connected to the IO-Link master, then master can initiate communication and exchange data with the MCU. The L6364 also provides power supply to the MCU by the internal LDO, which saves the additional circuits and BOM cost.

Advantages: Low cost and low power consumption; Reduce software effort; Shorten time to market

Key Features

- M12 standard industrial connector
- Support 8 IO-Link digital input devices
- Support industrial 4.0 IO-LINK interface to connect sensors/actuators
- IO-Link version 1.1/1.0 physical layer compliant
- Configurable current limitation threshold of CQ and DIO lines, or CQ//DIO line (Join Mode)
- Quartz-free IO-Link clock extraction and timing generation at COM2 (38.4k Baud) and COM3 (230.4k Baud)

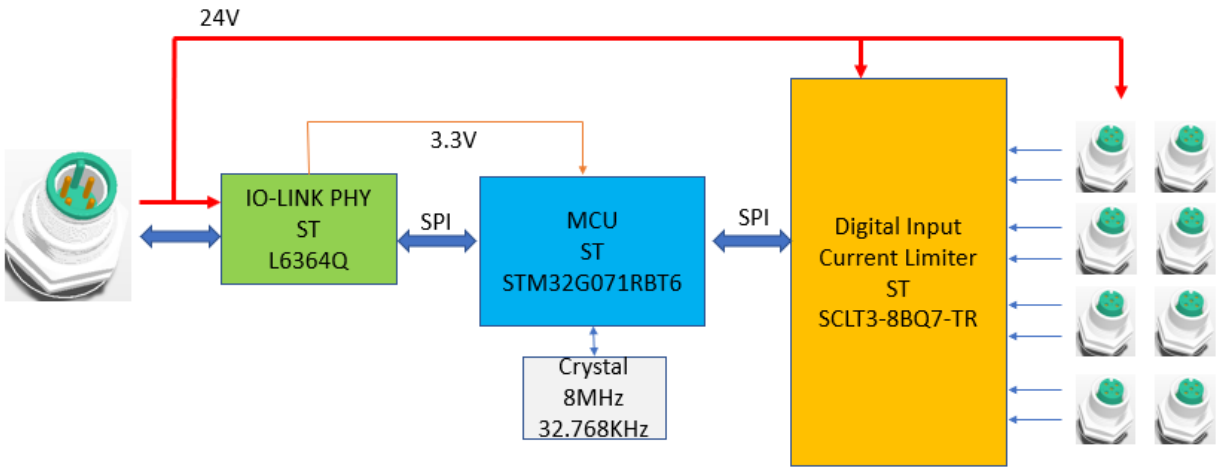
Core Chips

- **STM**: STM32G071RBT6; SCLT3-8BQ7-TR; L6364Q
- **Amphenol**: M12A-05PMMC-SF8B20; M12A-04PMMP-SF8001
- **muRata:** CSTNE8M00G520000R0; WMRAG32K76CS1C00R0

Application

- Industrial Maintenance
- IO-Link® Digital Sensing Systems
- Digital Input Modules for PLC
- Industrial, Building and Factory Automation

Block Diagram



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