



Analog Solutions—Robust Reliable Performance

CM3120

IO-Link Master Transceiver

Overview

The CM3120 is an IO-Link system on chip providing solutions for IO-Link master systems. In order to reduce system cost and size, this device integrates two IO-Link physical interface(s) as well as some of the low level protocol communication tasks with an integrated data link layer frame handler. This automation of frame handling reduces the interruptions to the microcontroller and its processing load; associated with SPI it reduces drastically the number of connections required with the MCU.

To meet the robustness requirement mandatory within the automation applications, the CM3120 embeds state of the art thermal dissipation implementation while having current sensing and overload protection along with voltage and temperature monitoring. Two LED drivers provide signaling for each channel.

Coming along with a IO-Link Device transceiver, a complete reference designs with proven third party protocol stack running on Kinetis MCUs are provided for turn-key project development.

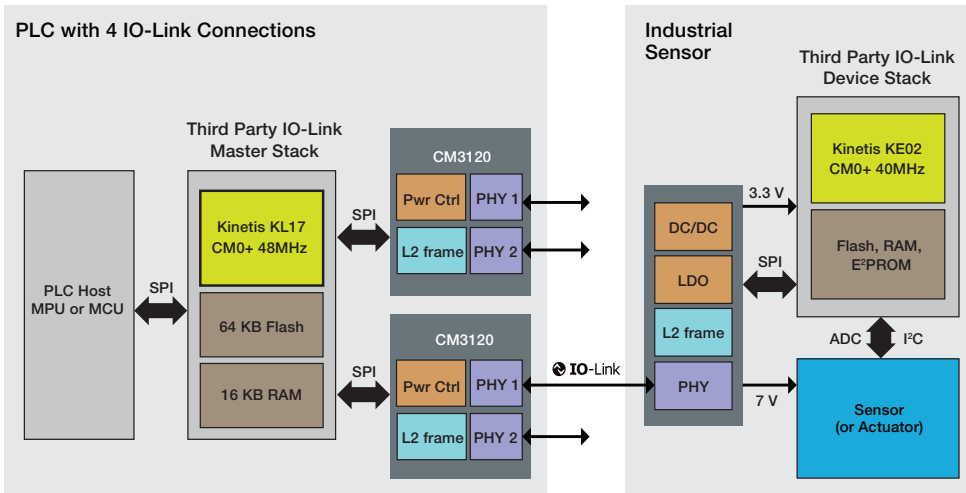


Target Applications

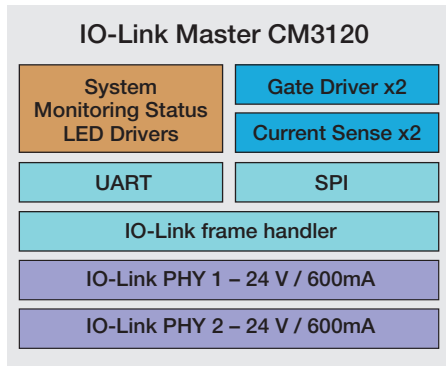
Master Nodes

- Input/Output Modules
- PLCs
- Operator Terminals
- Process Controllers
- IO-Link master gateways
- IEC61131-9 standard IO connection

System Application Diagram



CM3120 Product Features



IO-Link is the first standardized IO technology worldwide (IEC 61131-9) for

communication with sensors and also actuators. This powerful point-to-point communication is based on the long established 3-wire sensor and actuator connection without additional requirements regarding the cable material. IO-Link is complementing field bus and industrial Ethernet networks as the development of the existing, tried-and-tested connection technology for sensors and actuators. Freescale is a member of the IO-Link consortium.

CM3120 Dual Transceiver IO-Link Master Product Differentiators

Features	Benefits
Integrated IO-Link protocol data link layer frame handler	Reduces MCU interrupt, processing load and number of IO connections: cheaper MCUs
Dual IO-Link physical layer	Compact form factor and cost effective
2 status LED driver	Reduced system cost—fewer external components
Exposed flag QFN 7 x 7 mm package	Better thermal efficiency improving reliability and ease of board layout with fewer layers (2 layers)
Current sensing and overload protection	Monitoring and system protection against abnormal operation
IEC 61131-9 compliant	Certified to meet the IO-Link standard
Quad channel evaluation board with Kinetis MCU	Proven reference design with hardware and software protocols for quick design cycle

Documentation

Document Number	Title	Description
CM3120	CM3120 Dual Transceiver IO-Link Master	Data sheet
KL17P64M48SF2	Kinetis KL17 Microcontroller	Data sheet
SG1002	Analog Product Selector Guide	Selector guide
SG200	Analog Industrial Selector Guide	Selector guide

Development Tools

Kit Number	Description
TWR-CM3120-EVM	Quad channel evaluation board with Kinetis MCUs

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