IO-Link Master Controller
netX 50 – eight channels on chip

CONNECTED BY netx

IO-Link Master Technology

- **netX 50 with eight channel IO-Link Master Controller**
  - **Buffer for complete IO-Link Frames**
  - **Cyclic data transfer**
  - **Automatic send and receive control**
  - **Automatic Wakeup generation**
- **Discrete structured PHY2 of high-grade standard components**
- **IO-Link stack, based on proven technology from TMG/Karlsruhe company**
- **netX technology as Single Chip solution for gateways to fieldbusses and Real-Time Ethernet**
- **Evaluation board for PROFINET IO gateway**
  - **Design in IP67 housing**
  - **Robust connections with M12 plugs**
  - **7 segment display for diagnostic**
- **netX 50 with IO technology**
  - **Customer development**
  - **Production**
  - **Reference board for brand-labeling**
  - **DTM development**

IO-Link

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NETX 50 A
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IO-Link is characterized by its great acceptance. Numerous well-known manufacturers of sensors, actuators and communication technology already support IO-Link with many innovative products.

The netX 50 as a highly integrated network controller with an ARM 966 / 200 MHz core and two communication channels for all market-relevant fieldbus and Real-Time Ethernet systems is the ideal hardware platform for an IO-Link Master gateway. We offer the technology to you or develop and produce your module to your needs.

The reference design show here presents a compact structure of an eight-channel IO-Link gateway for PROFINET IO based on the netX 50. It is designed in the IP67 housing from SKS and is designed for industrial applications.

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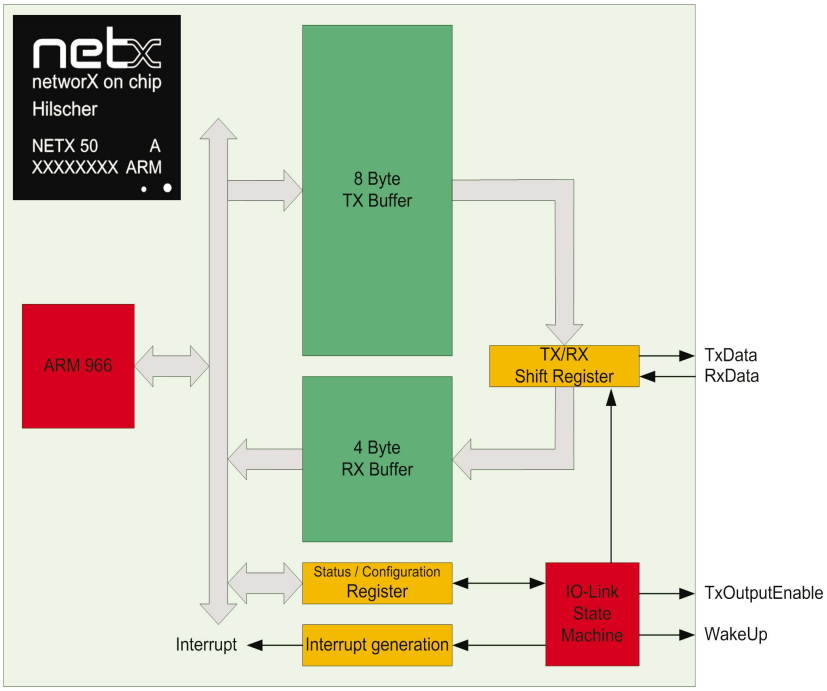
Block Diagram

As part of its peripherals, the netX 50 contains the IO-Link controller. It consists of eight identical channels, each with separate transmit and receive buffer for IO-Link frames.
The IO-Link state machine controls data transmission (sending / receiving of telegrams) via automatic switching of the data transmission direction. Bus cycles can be started individually or cyclically and are synchronized with the application via interrupts.

Because of the hardware support, very time-critical interrupts, that may occur with standard UARTs, are prevented. For instance these occur for every transmitted byte or when switching from transmit to receive operation.



netX 50 with a channel of the IO-Link controller

Technical Data

IO-Link Controller in the netX 50	
Parameter	**Value**
Channels	8
Buffer	Configurable Max. 8 Byte transmit / 4 Byte receive
Baud Rates	4800 / 38400 / 230400 Baud
Functions	Automatic transmit and receive control Automatic Wakeup generation Cyclic data transfer Interrupt for transmission / receiving / cycle / WakeUp

Reference Board	
Parameter	**Value**
IO-Link	8 channels / PHY2 / 5 pin M12 plug
Communication	PROFINET IO, Class A / 2 Port Switch 4 pin M12 plug
LEDs	2 Status LEDs per IO-Link channel LINK / RXTX / BF / SF SYS / 7 Segment display
Dimensions	226 mm x 60 mm
Diagnostic	USB / Mini-USB socket
Operating Voltage	24 V / approx. 200mA / 3 pin M16 plug
Operating Temperature	-20 bis +60 °C
Sensor Current	Approx. 0.3 A per channel

Product Overview

Article Designation	Article
netX 50	Network controller with ARM 966 / 200 MHz and eight channel IO-Link Master
IO-Link Reference Board	Gateway IO-Link to PROFINET IO Switch documentation IO-Link Controller Stack

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