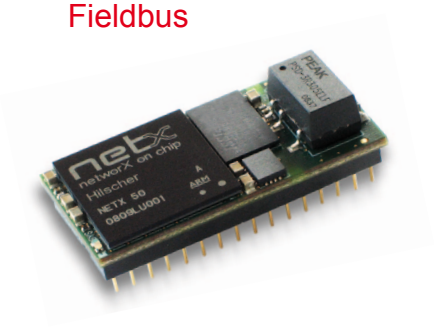
netIC

Fieldbus & Real-Time Ethernet as DIL-32 IC

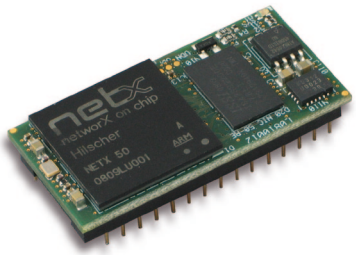
Highlights

- **Compact communication module for cost-efficient field devices**
- **All major network protocols as Slave**
- **Modbus RTU protocol via SPI or UART to the host**
- **One hardware for all Real-Time Ethernet protocols**
- **Direct I/O Data transfer via external shift registers**
- **Ready to use, due to preloaded firmware**
- **One design for all networks due to consistent interfaces**

Fieldbus



Real-Time Ethernet



Communication for simple slave devices

Simple field devices such as barcode readers, identification system, valve islands or analog / digital inputs and outputs will require a connection to Fieldbus or Real-Time Ethernet systems. Since these devices do not have high data throughput, the netIC utilizes the use of serial connection such as UART and SPI as its communication interface.

The netIC is a complete ‘Single Chip Module’ in the compact dimensions of a Dual-In-Line (DIL) 32 pin plug-in module. It is based on the network controller netX and contains all components of a Fieldbus or Real-Time Ethernet interface with integrated 2-Port Switch and Hub. With the netX technology, the whole spectrum of relevant Fieldbus and Real-Time Ethernet systems is covered by loadable Firmware with one netIC. The user data is transferred with simple read-write commands to the application via the above mentioned serial interfaces. As serial protocol the well known Modbus RTU protocol is used.

Alternatively conventional shifting registers can be controlled via a synchronous serial interface so no additional processor for a simple I/O-Device is required.

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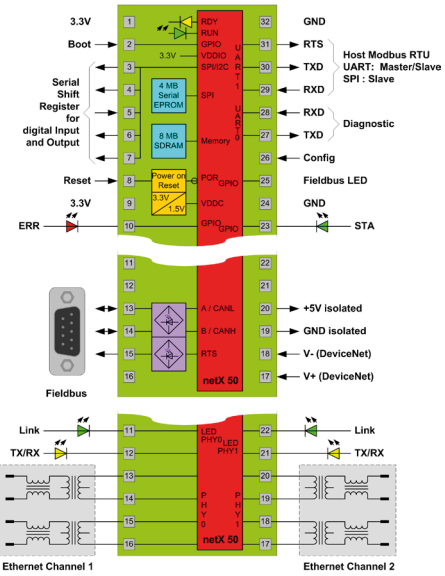
Technical Data/ Product Overview

Fieldbus

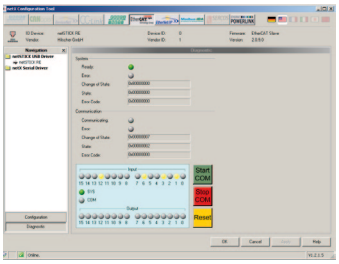
Real-Time Ethernet



Serial Host Interface with connections for diagnostic, dig. IOs, LEDs and control signals to configure and reset the netIC

Fieldbus Interface

Real-Time Ethernet Interface



The netIC only requires a 3.3 V power supply and two RJ45 Ports with integrated transmitter for operation on a Real-Time Ethernet system respectively all components of the Fieldbus Interface.

Examples of schematic diagrams are included in the documentation. An evaluation board is available for testing, loading the Firmware and for the configuration.

The configuration is transmitted from the Host system or can be saved with the netX utility program as a configuration file on the netIC.

Technical Data

Parameter	Value
Processor	netX 50 / netX 10
Memory	8 MB SDRAM
Displays	System-LED
Serial Interfaces	Diagnostic/Configuration: UART (RXD, TXD) Host Interface: Modbus RTU via UART (Master / Slave) max. 115.2 KBit/s Modbus RTU via SPI (Slave) max. 102 KBit/s
Synchronous serial IO-Interface	Inputs: max. 256 x 8 Bit shift register Outputs: max. 256 x 8 Bit shift register max. 5 MBit/s

Technical Data

Parameter	Value
Communication-interface	2x Ethernet 100 BASE-TX or CompoNet / CANopen / DeviceNet / CC-Link / PROFIBUS
Operating voltage	+3.3V / typ 400 mA
Operating temperature	-20°C ... +70°C
Dimensions (L x B x H) - without heatsink -	42 x 21 x 14,2 mm (without Pins) 42 x 21 x 17,4 mm (with Pins)
Emission	EN55011 class A
Immunity	Surge - IEC 61000-4-5 Burst - IEC 61000-4-4 ESD - IEC 61000-4-2
RoHS	yes
UL	no

Overview

Article Description	Article Number	Article
NIC 10-CCS/CCS	1542.740	netIC CC-Link Slave Interface
NIC 10-CPS/CPS	1542.760	netIC CompoNet Slave Interface
NIC 50-COS/COS	1541.540	netIC CANopen Slave Interface
NIC 50-DNS/DNS	1541.520	netIC DeviceNet Slave Interface
NIC 50-DPS/DPS	1541.420	netIC PROFIBUS-DP Slave Interface
NIC 50-RE/ECS	1541.100/ECS	netIC EtherCAT Slave Interface
NIC 50-RE/EIS	1541.100/EIS	netIC EtherNet/IP Adapter Interface
NIC 50-RE/PLS	1541.100/PLS	netIC POWERLINK Controlled Node Interface
NIC 50-RE/OMB	1541.100/OMB	netIC Modbus TCP Client/Server Interface
NIC 50-RE/PNS	1541.100/PNS	netIC PROFINET IO Device Interface
NIC 50-REFO/PNS	1541.110/PNS	netIC PROFINET IO Device with Fiber Optic
NIC 50-RE/S3S	1541.100/S3S	netIC SERCOS III Slave Interface
NIC 50-RE/VRS	1541.100/VRS	netIC VARAN Client Interface
NICEB-RE	1540.000	netIC Evaluationboard for Real-Time Ethernet*
NICEB-FB	1541.000	netIC Evaluationboard for Feldbus
NICEB-REFO	1540.020	netIC Evaluationboard Fiber Optic
NICEB-CONKIT	1541.001	netIC Evaluationboard Fieldbusplugkit

Note:
All technical data are preliminary and can be altered without notice.

Note:
To enhance NICEB-RE to NICEB-FB a Connector-Kit (Article number: 1541.001) is available and can simply be ordered afterwards.

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