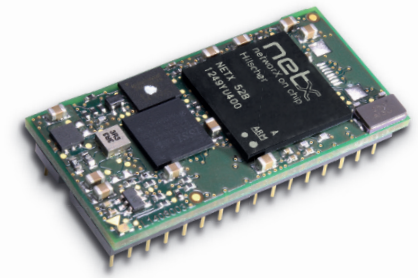
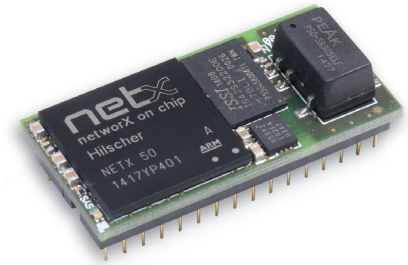
netIC

DIL-32 Communication-IC with Modbus Host Interface

- **Compact communication module for cost-efficient field devices**
- **Fieldbus and Real-Time Ethernet as Slave**
- **Modbus RTU protocol via SPI or UART to the host**
- **One hardware for all Real-Time Ethernet protocols**
- **Firmware update via integrated Webserver**
- **One design for all networks due to consistent interfaces**



Real-Time Ethernet



Fieldbus

Slave solution for simple field devices

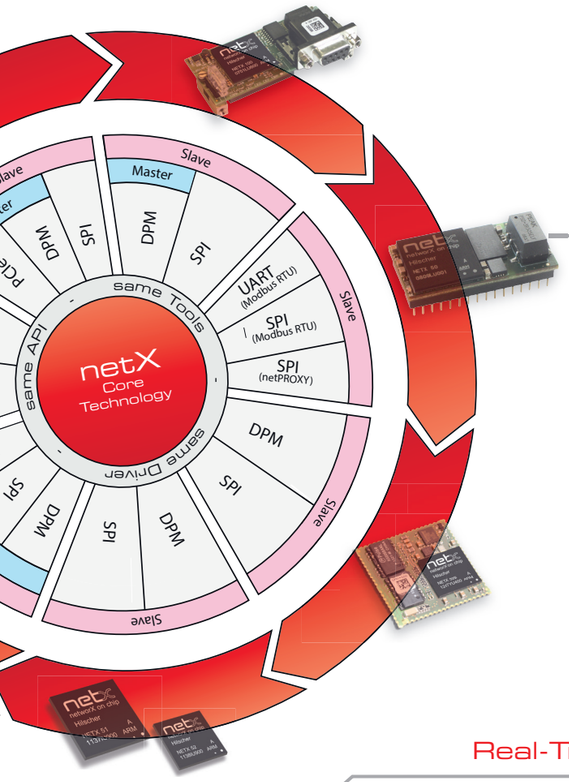
Simple field devices such as barcode readers, identification system, valve islands or I/O blocks will require a connection to Fieldbus or Real-Time Ethernet systems. Since these devices do not have a high data throughput, the netIC uses a serial connection such as UART and SPI as host interface.

The netIC is a complete ‘Single Chip Module’ in the compact dimensions of a Dual-In-Line (DIL) 32 pin plugin 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.

hilscher
COMPETENCE IN COMMUNICATION

DIL-32 Communication-IC with Modbus Host Interface



Same Function - Same API - Same Tools

The Hilscher Platform Strategy provides the whole range of communication solutions to the user – from standardized PC cards up to the integration of the multi-protocol chip netX. All solutions – whether Master or Slave – have the same interface to the application and use the same tools.

After single integration of the application interface the change to a different hardware format or a different physical host interface is a purely hardware optimization process without fundamental changes of the software structure.

Real-Time Ethernet & Fieldbus protocols

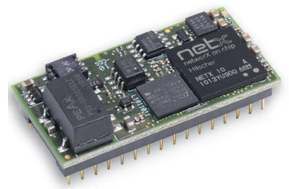
As specialist for industrial communication Hilscher offers the largest selection of protocols used in the factory automation. Besides traditional Fieldbus all major Real-Time Ethernet protocols are available.

EtherCAT, EtherNet/IP, ETHERNET POWERLINK, Modbus, PROFINET, sercos the automation bus, VARAN, CANopen, CC-Link, CC-Link IE Field Basic, DeviceNet, PROFIBUS

Modbus Host Interface

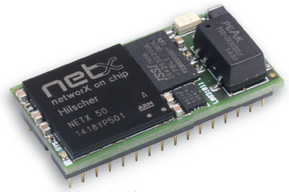
Modbus

For a quick and easy integration the Hilscher netIC uses the well-known Modbus protocol as application interface. Thereby it can either be deployed as Modbus RTU Slave or as Modbus RTU Master on the serial bus – or netIC gets connected as SPI slave device.

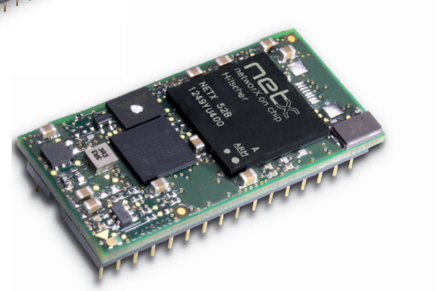


NIC 10-CCS

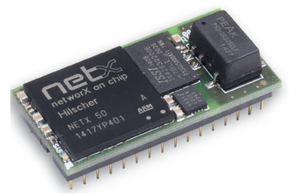
NIC 50-COS



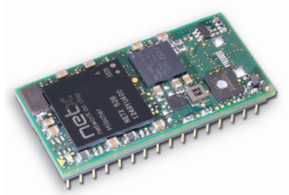
NIC 50-DNS



NIC 52-RE



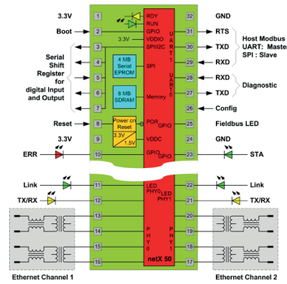
NIC 50-DPS



NIC 52-REFO

Direct I/O data transfer

netIC allows the direct connection of I/O data via conventional shift registers. This is beneficial for compact and simple field devices, since a product design can be realized without a host processor. The shifting direction as well as the refresh cycle of the data can easily be configured using a graphical tool.

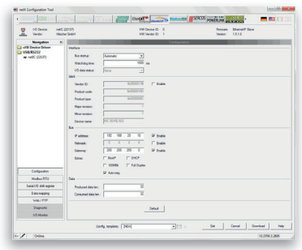


Integrated Webserver

The major Real-Time Ethernet protocols always include a Webserver and FTP server. This allows the user an easy and central firmware update as well as IP configuration. Furthermore, I/O data from the Modbus registers can be dynamically displayed and written. User and password administration will be done during the installation process using a graphical configuration tool.

Graphical configuration tool

Commissioning and configuration of netIC is done quick and easy by an intuitive configuration tool. With this tool the user defines the behaviour of the Fieldbus, the Modbus host interface, the shift registers as well as the basic settings of the Web and FTP Server.



Technical Data / Product Overview

Technical Data

Parameter	Value
Processor	netX 10 / netX 50 / netX 52
Communication Interface	2x Ethernet 100 BASE-TX CANopen / DeviceNet / CC-Link / PROFIBUS
SSIO Interface	Inputs max. 256 x 8 bit shift register Outputs max. 256 x 8 bit shift register
System Interface	Modbus RTU via UART (Master/Slave) max. 115.2 KBit/s Modbus RTU via SPI (Slave) max. 102 KBit/s
Displays	System LED (on netIC) COM LED (on basic design)
Diagnosis	UART (RXD, TXD) max. 5 MBit/s

Technical Data

Parameter	Value
Operating temperature	- 20 ... +70 °C
Operating voltage	+3.3 V / typ 400 mA
Dimensions (L x W x H)	42 x 21 x 14,2 mm (without Pins) 42 x 21 x 17,2 mm (with Pins)
CE Sign	yes
RoHS	yes

Evaluation

Product Name	Brief Description
NICEB-RE	netIC Evaluationboard for Real-Time Ethernet
NICEB-FB	netIC Evaluationboard for Fieldbus
NICEB-REFO	netIC Evaluationboard Fiber Optic

Function upgrade NIC 52-RE & NIC 52-REFO

Especially for the growing demands of Real-Time Ethernet Hilscher offers with NIC 52-RE and NIC 52-REFO a new netIC hardware with enhanced performance. It is based on the netX 52 multi-protocol network controller and allows an operating temperature up to 70 °C - just without heat sink.

- Significantly reduced height
- Increased performance for high network load
- Ready for PROFINET 2.3 certification
- Pin & function compatibel

Artikel	CANopen	CC-Link	DeviceNet	PROFIBUS	CC-Link IE Field Basic	EtherCAT	EtherNet/IP	POWERLINK	Modbus	PROFINET	SERCOS	EtherNet/IP	Modbus via UART	Modbus via SPI
netIC 10 NIC 10	⊖	✓	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	✓	✓
netIC 50 NIC 50	✓	⊖	✓	✓	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	✓	✓
netIC 52 NIC 52	⊖	⊖	⊖	⊖	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Note: *Technical data may be changed without further notice.*