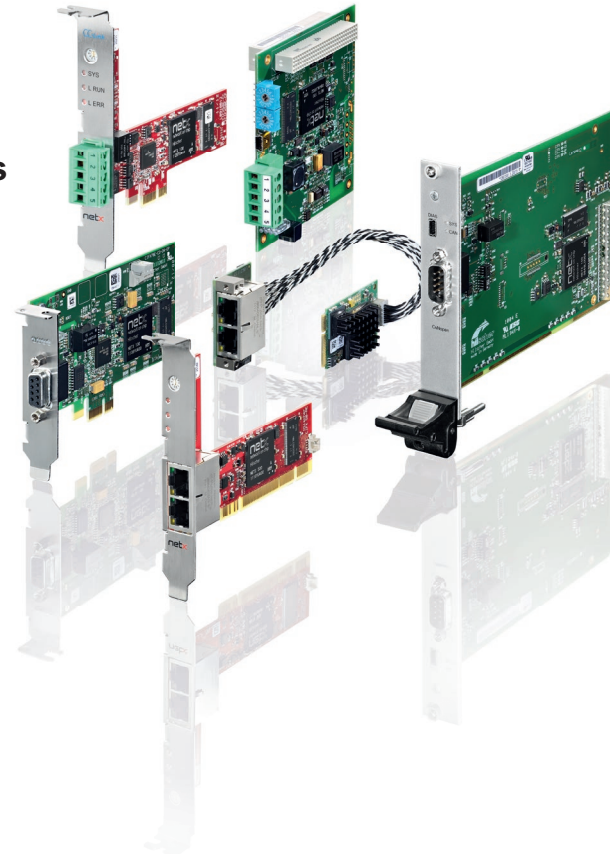


- All major industrial protocols
- All common PC card formats
- One hardware for all Real-Time Ethernet protocols
- Master and Slave
- Wide range of device drivers
- Same application interface for all networks



PC cards in all formats for all protocols

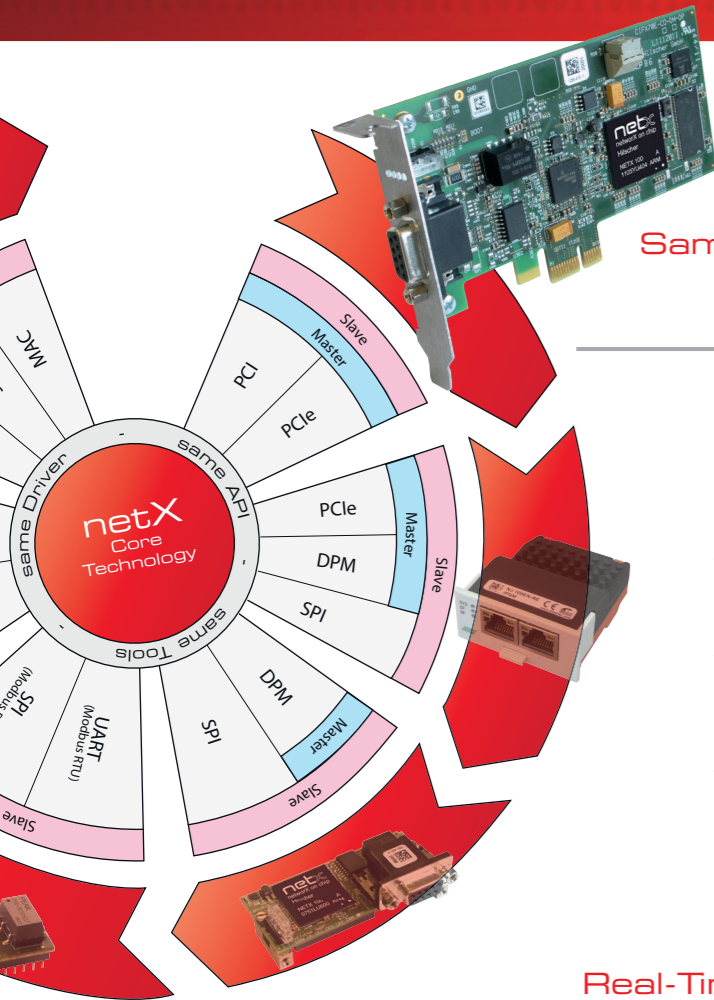
The cifX PC card family is the unified standard supporting all Real-Time Ethernet and Fieldbus systems for PC based automation.

The protocol stack is executed autonomously on the PC card and process data exchange with the host is done via Dual-Port-Memory or DMA (Direct Memory Access). Thanks to the common Hilscher Platform Strategy all PC cards use the same driver and tools - independent of protocol and card format. A change of communication protocol is done by just loading a different firmware. A rotary switch delivers an easy and reliable slot assignment for the PCI- and PCI Express card types. In addition special types e.g. with integrated NVRAM, 2-channel cards or detached network interface are available.

A complete software package is always included in the scope of delivery. This package consists of one FDT-based configuration tool (IEC standard) for all products and networks, loadable firmware, documentation and a driver tool-kit.

Due to own network controller netX a 10-year guarantee of delivery is granted.

cifX - Communication for PC based Automation



Same Function - Same API - Same Tools

The Hilscher Platform Strategy provides the whole range of communication solutions to the user – from standardized PC card 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

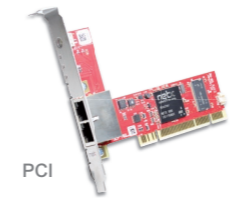


As specialist for industrial communication Hilscher offers the largest selection of protocols used in the factory automation. Besides traditional Fieldbus all major Real-Time Ethernet protocols are available - and that's as Master or Slave.

Widest range of device drivers



For a quick and easy integration Hilscher offers a wide range of device drivers. Besides a C-Toolkit free of charge, drivers for all relevant operating systems as well as soft-PLC driver from 3rd party suppliers are available.



PCI



PCI Express



Low Profile PCIe



Compact PCI



Mini PCI Express



PC/104



PCI 104

NVRAM included

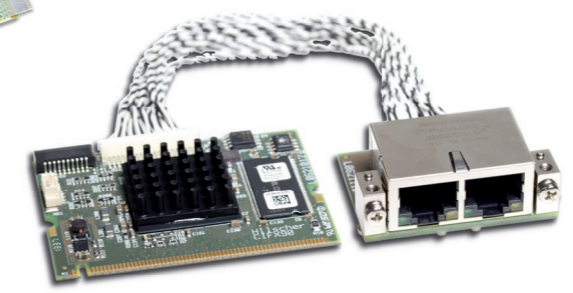
Especially for compact Box PCs Hilscher offers specific types with integrated NVRAM for secure data storage. The user can freely access the non volatile memory via standard device driver. Thus in case of a voltage loss his key data will remain available. NVRAM is available for:

- ▶ Mini PCI Express - incl. 128 kByte MRAM
- ▶ Low Profile Express - incl. 128 kByte MRAM

Detached network interface

For flexible usage in encapsulated systems all embedded PC cards provide a detached network interface. Available for:

- ▶ Mini PCI - incl. 15-cm cable
- ▶ Mini PCI Express - incl. 15-cm cable
- ▶ PC/104 - optional 15-cm cable
- ▶ PCI-104 - optional 15-cm cable



Mini PCI

Universal PC card

The Hilscher PC cards cifX are based on the multi-protocol chip netX 100 and are designed as so called universal cards. Means the same card can be used as Master or as Slave, respectively one hardware supports all Real-Time Ethernet systems - all using the same application interface. A change of functionality is done by just loading an appropriate firmware and adding a software license for the master.

Technical Data / Product Overview

Technical Data

Parameter	Value
Weight	max. 150 g
CE Sign	yes
Certification	RoHS, Reach, UL
Emission	EN 55011:2009 + A1:2010, CISPR 11, Class A
Galvanic Isolation	potential free isolated

Parameter	Value
\ET	extended temperature range
\MR	128 kByte MRAM
\F	detached network interface
Dual-Port-Memory	16 kByte, 8-/16 bit
LED Indicators	SYS, COM 0, COM 1, Link, Rx/Tx

Article	System Interface	Operating Voltage	Operating Temperature	Dimensions (LxHxW)
CIFX 50-XX	PCI, 33 MHz, DPM, IO-DMA	3,3 V / typ. 650 mA	-20 ... +55°C / -20 ... +70°C	120,0 x 86,0 x 18,5 mm
CIFX 50E-XX	PCI Express, One-Lane-Port	3,3 V / typ. 800 mA	-20 ... +55°C / -20 ... +70°C	120,0 x 86,0 x 18,5 mm
CIFX 70E-XX	Low Profile PCI Express, One-Lane-Port	3,3 V / typ. 800 mA	-20 ... +65°C	119,0 x 69,0 x 18,5 mm
CIFX 80-XX	Compact PCI, 33 MHz, DPM, IO-DMA	3,3 V / typ. 650 mA	-20 ... +70°C	162,5 x 100,0 x 20,0 mm
CIFX 90-XXIF	Mini PCI, 33 MHz, DPM, IO-DMA	3,3 V / typ. 650 mA	-20 ... +70°C	60,0 x 45,0 x 9,5 mm
CIFX 90E-XXIF	Mini PCI Express, One-Lane-Port	3,3 V / typ. 800 mA	-20 ... +55°C / -20 ... +70°C	51,0 x 30,2 x 11,0 mm
CIFX 104-XX*	PC/104, 33 MHz, DPM	3,3 V / typ. 650 mA	-20 ... +70°C	97,0 x 91,0 x 24,0 mm
CIFX 104C-XX*	PCI 104, 33 MHz, DPM, IO-DMA	3,3 V / typ. 650 mA	-20 ... +70°C	97,0 x 91,0 x 24,0 mm

*= available in the variants: \F, -R, -R\F

System bus Article	Universal Card (Master & Slave)	canOpen	CC-Link	DeviceNet	PROFINET	EtherCAT	EtherNet/IP	POWERLINK	Modbus	Energy Stream	Sercos	NVRAM	2-Channel
PCI CIFX 50	✓	✓	✓	✓	✓ ⁵⁾	✓	✓	✓	✓	✓	✓	✓	✓ ⁴⁾
PCI Express CIFX 50E	✓	✓	✓	✓	✓ ⁵⁾	✓	✓	✓	✓	✓	✓	✓	✓ ⁴⁾
Low Profile PCIe CIFX 70E	✓	–	✓	–	✓ ⁵⁾	✓	✓	✓	✓	✓	✓	✓ ³⁾	–
Compact PCI CIFX 80	✓	–	✓	–	✓ ⁵⁾	✓	✓	✓	✓	✓	✓	–	–
Mini PCI CIFX 90	✓	–	✓	✓	✓ ⁵⁾	✓	✓	✓	✓	✓	✓	–	–
Mini PCIe CIFX 90E	✓	–	✓	✓	✓ ⁵⁾	✓	✓	✓	✓	✓	✓	✓ ³⁾	✓ ⁴⁾
PC/104 CIFX 104	✓	–	✓	✓	✓ ⁵⁾	✓	✓	✓	✓	✓	✓	–	–
PCI 104 CIFX 104C	✓	–	✓	✓	✓ ⁵⁾	✓	✓	✓	✓	✓	✓	–	–

1) Slave only

2) Master only

3) NVRAM available for all protocols

5) also MPI

4) 2-Channel card available in following combinations.

PCI: 2ASM, 2DP, 2CO, 2DN, 2DPICO, 2DPIDN, 2COLDN

PCI Express: 2ASM, 2DP, 2CO, 2DN, 2DPICO, 2DPIDN, 2COLDN

Mini PCI Express: 2DP, 2CO, 2DN, 2DPICO, 2DPIDN, 2COLDN

Note: All technical data is preliminary and may be changed without further notice.

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