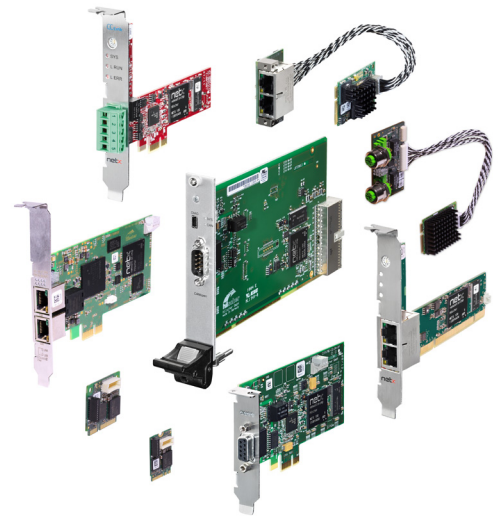


cifX

PC cards for Real-Time Ethernet and Fieldbus

- All common PC card formats
- All major industrial protocols
- 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 drivers and tools - independent of protocol and card format.

Thanks to the netX technology there is exactly one hardware needed for the realization of all Real-Time Ethernet protocols. A change of the communication protocol is done by just loading a different firmware.

Always the right solution! Different cable lengths, M-12 connectors, extended temperature range, 2-channel cards or detached network interfaces – numerous hardware options always offer the right solution for your application. On top, a wide range of device drivers and a C-Toolkit, free of charge, are available.

The PC based automation is evolving and the Hilscher cifX PC card family keeps the pace. With continuous expansion for new standards, protocols and formats, as M.2, mini PCIe halfsize or CC-Link IE Field, customers are always prepared for new market demands.



→ cifX
Service hotline: +49 (0) 6190 9907-90
www.hilscher.com

Most flexible PC card portfolio on the market

Card formats



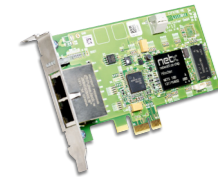
PCI
-20 ... +70°C
+3,3 V / typ. 650 mA
120,0 × 86,0 × 18,5 mm



Compact PCI
-20 ... +70°C
+3,3 V / typ. 650 mA
162,5 × 100,1 × 20,0 mm



PCI Express
-20 ... +55°C, -20 ... +70°C
+3,3 V / typ. 800 mA
120,0 × 86,0 × 18,5 mm



Low Profile PCI Express
-20 ... +65°C
+3,3 V / typ. 800 mA
119,0 × 69,0 × 18,5 mm

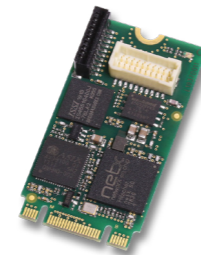


Mini PCI Express
-20 ... +55°C, -20 ... +70°C
+3,3 V / typ. 800 mA
51,0 × 30,2 × 11,0 mm

Hardware-Options

- **Extended temperature**
For the usage in high temperature environments, all cifX cards support an extended temperature range
- **Rotary Switch**
A rotary switch on PCI, PCI Express and Low Profile PCI Express cards allows an easy and reliable slot assignment
- **2-Channel Cards**
For compact systems with limited internal slots, 2-channel cards are available

Card formats



M.2 2242 Key B+M
-20 ... +70°C
+3,3 V / typ. 330 mA
42,0 × 22,0 × 7,0 mm



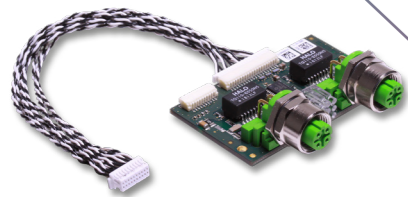
M.2 2230 Key A+E
-20 ... +70°C
+3,3 V / typ. 330 mA
30,0 × 22,0 × 7,0 mm



M.2 3042 Key B+M
-20 ... +65°C
+3,3 V / typ. 650 mA
42,0 × 30,0 × 7,0 mm



Mini PCI Express halfsize
-20 ... +70°C
+3,3 V / typ. 330 mA
26,8 × 30,0 × 7,2 mm

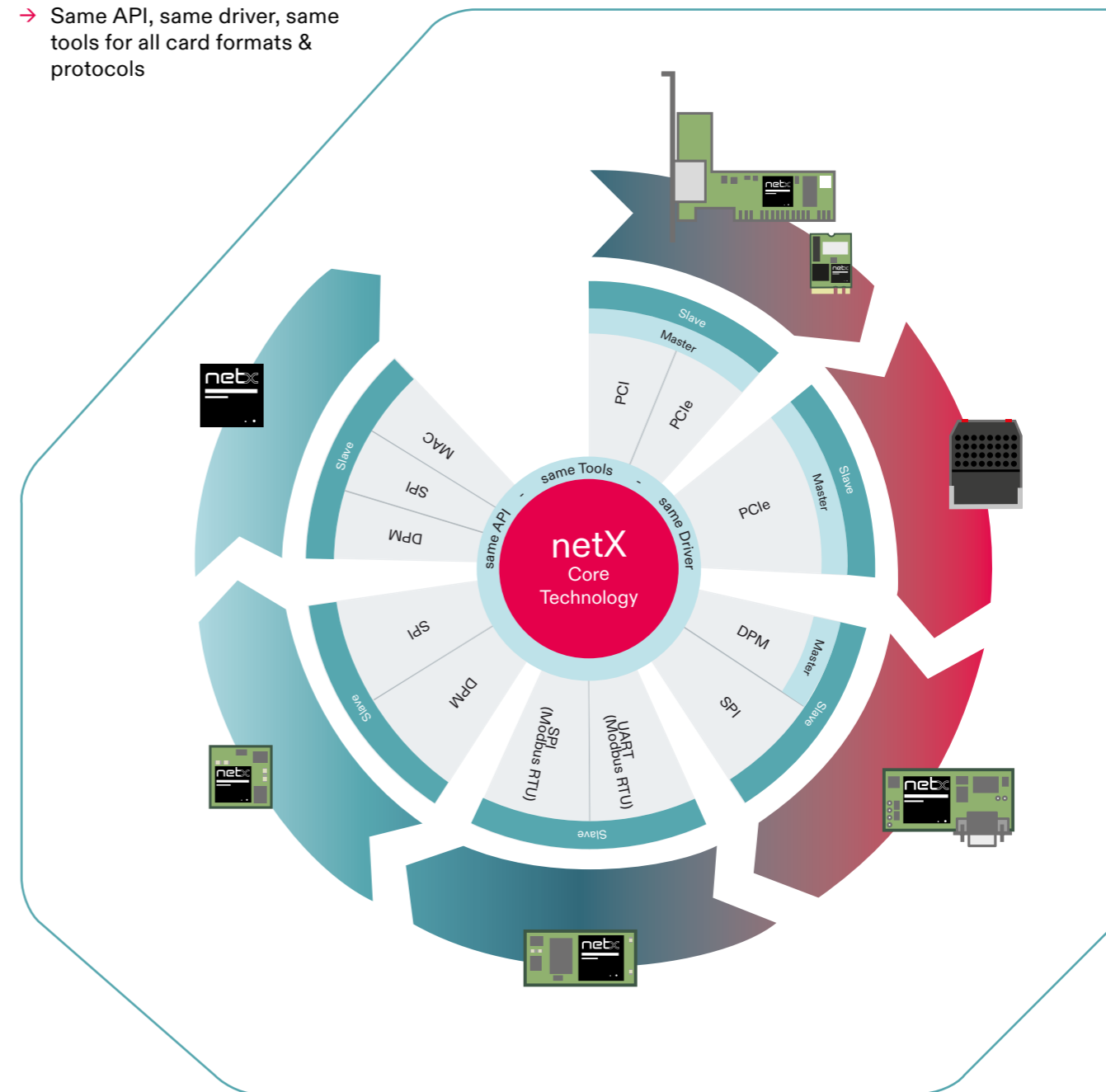


AIFX-RE\M12 with M12 connectors

Alternatively, all cards with a detached Real-Time Ethernet network interface are available with D-coded M12 connectors

Platform Strategy

- Same API, same driver, same tools for all card formats & protocols



Detached network interface

- AIFX-RE with RJ45 connectors
Mini PCI Express, mini PCIe halfsize and M.2 cards come with a detached network interface, which is equipped with RJ45 connectors
- Different cable lengths
For flexible mounting the detached network interface can be delivered with cable lengths of 15 or 20cm for Real-Time Ethernet and 15 or 30cm for Fieldbus



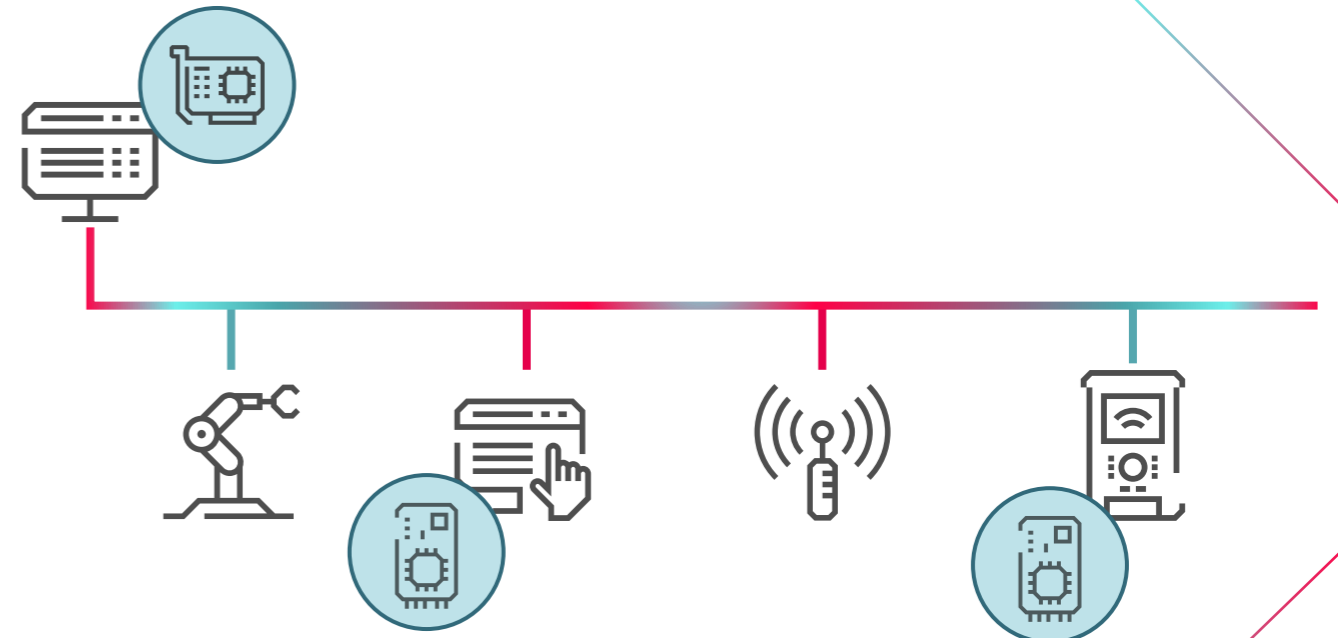
Unique diversity & simplicity

For all use-cases

Universal PC card for Master & Slave



Hilscher's PC cards cifX are based on the multiprotocol 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 master functionality. Dedicated PC cards, as for CC-Link IE Field or netX 90 based cards, are designed for Slave functionality only.



Real-Time Ethernet & Fieldbus protocols

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



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 softPLC drivers from 3rd party suppliers, are available.



Areas of use



Industrial-PC

- Plant control or local machine control
- Independent of the IPC - all formats and protocols as Master & Slave
- Same API and drivers for all cards



HMI Panels

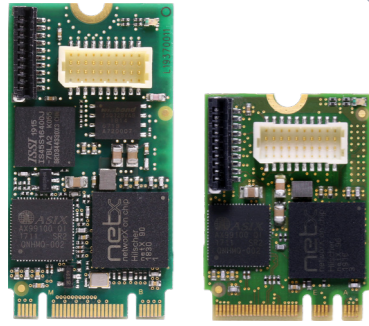
- Monitoring and machine operation
- One hardware for all Real-Time Ethernet systems
- Wide range of device drivers



Vision

- For small & compact systems, e.g. smart cameras
- Cards for extended temperature range
- Smallest multiprotocol PC card on the automation market

What's new?



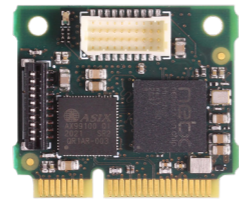
Note: Original size

cifX in M.2 format

- Smallest multiprotocol PC cards on the automation market with a size of 22 x 42 mm resp. 22 x 30 mm
- Multiprotocol card for various Real-Time Ethernet and Fieldbus protocols
- Optimized for extended temperature-, energy- and space-sensitive slave applications

mini PCIe halfsize format

- Smallest multiprotocol PC cards on the automation market with a size of 26,8 x 30 mm
- Multiprotocol card for various Real-Time Ethernet and Fieldbus protocols
- Optimized for extended temperature-, energy- and space-sensitive slave applications



Note: Original size



Note: Original size

cifX Master & Slave solution in M.2 3042 format

- Industrial master and slave communication for M.2 PCI Express sockets
- Multiprotocol card for various Real-Time Ethernet and Fieldbus protocols
- Optimized for small & compact systems
- Predestined for controlling, monitoring and flexible PC-based applications

Product Matrix

All formats and all networks

System bus Product	Processor	Universal card (Master & Slave)	CANopen	CC-Link	DeviceNet	PROFINET	CC-Link IE	CC-Link IE Field Basic	EtherCAT	EtherNet/IP	ETHERNET POWERLINK	Modbus	PROFIBUS-DP	SERCOS	2-Channel	M12-Connector
PCI CIFX 50	netX 100	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✗	✗
Compact PCI CIFX 80	netX 100	✓	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✗	✗
PCI Express CIFX 50E	netX 100	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗
Low Profile PCIe CIFX 70E	netX 100	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗
Mini PCI Express CIFX 90E	netX 100	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mini PCIe halfsize CIFX HPCIIE 90 ¹⁾	netX 90	✗	✓	✗	✓	✓	✗	✗	✓	✓	✗	✓	✓	✗	✗	✗
M.2 2242 Key B+M CIFX M224290 ¹⁾	netX 90	✗	✓	✗	✓	✓	✗	✗	✓	✓	✗	✓	✓	✗	✗	✗
M.2 2230 Key A+E CIFX M223090 ¹⁾	netX 90	✗	✓	✗	✓	✓	✗	✗	✓	✓	✗	✓	✓	✗	✗	✗
M.2 3042 Key B+M CIFX M3042100	netX 100	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓

¹⁾ Slave only ²⁾ also MPI

Product Information

Technical Data

Scope of delivery

A complete software package is always included in the scope of delivery. This package consists of a set of configuration tools for all products and networks, loadable firmware, documentation and a driver toolkit. Numerous drivers for different operating systems are also available.

Configuration and Diagnostics

- New modular toolset for configuration and diagnostic of the Hilscher PC Cards.
- Device Explorer – to load a communication firmware to a hardware target.
- Communication Studio - to create a network configuration and to download to the device.
- Device Library - Library with all Hilscher devices for the Communication Studio.
- PROFINET Network Analysis - enables the analysis of the device topology of PROFINET networks as well as the connected PROFINET devices.

Technical Data

Weight

max. 150 g

Certification

CE Sign, RoHS, Reach, UL, UKCA

Emission

EN 55011:2009 + A1:2010, CISPR 11, Class A

Galvanic Isolation

potential free isolated

Dual-Port-Memory

64 kByte, 8-/16 bit

LED Indicators

SYS, COM 0, COM 1, Link, Rx/Tx

\ET

extended temperature range

\F

detached network interface

\M12

detached network interface with M12-connectors

\20

20 cm connection cable

\30

30 cm connection cable

Product Overview

CIFX 50-XX

PCI, 33 MHz, DPM, IO-DMA

CIFX 50E-XX

PCI Express, One-Lane-Port

CIFX 70E-XX

Low Profile PCI Express, One-Lane-Port

CIFX 80-XX

Compact PCI, 33MHz, DPM, IO-DMA

CIFX 90E-XX\F

Mini PCI Express, One-Lane-Port

CIFX M224290BM-XX\F

M.2 2242 Key B+M PCI Express, One-Lane-Port

CIFX M223090AE-XX\F

M.2 2230 Key A+E PCI Express, One-Lane-Port

CIFX M3042100-XX\F

M.2 3042 Key B+M PCI Express, One-Lane-Port

CIFX HPCIE90-XX\F

Mini PCI Express halfsize, One-Lane-Port

Note: All technical data may be changed without further notice

** Available in the variants: \F, -R, -R\F



→ cifX
 Service hotline: +49 (0) 6190 9907-90
www.hilscher.com