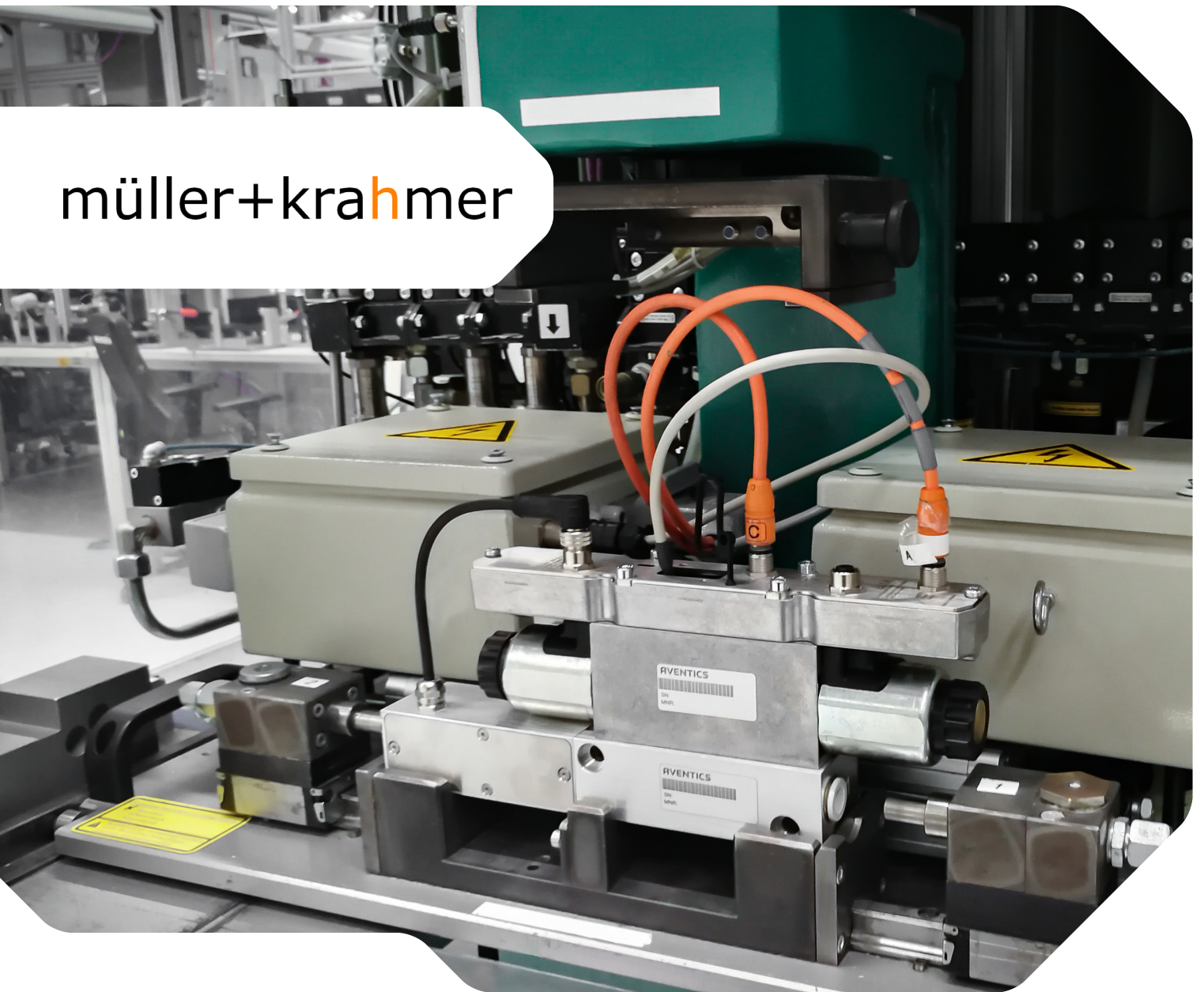


 müller+kraemer

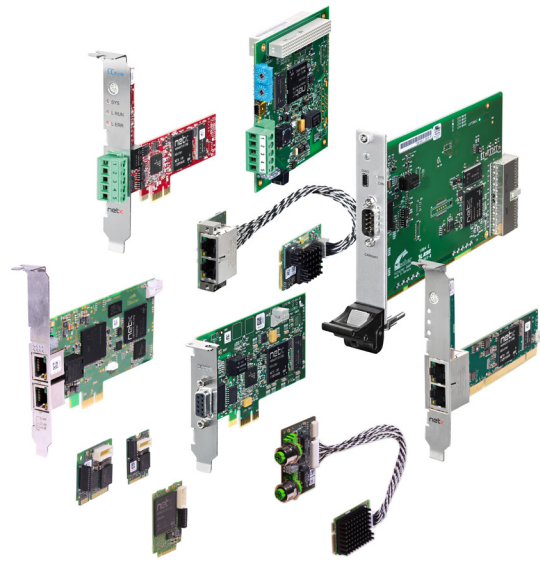
**cifX**

## PC-based Automation with unified Interfaces for all Formats and Protocols

müller+kraemer GmbH realizes pneumatic test benches with the capability to change protocols on the fly with the help of Hilscher cifX PC cards.



## cifX PC Cards – All Formats and All Protocols



Hilscher's cifX PC cards are the easiest and fastest way to equip PC-based automation devices with a fieldbus or Real-Time Ethernet interface. The protocol stack is handled autonomously on the PC card using loadable firmware, and the data are exchanged with the host using dual-port memory or DMA (Direct Memory Access). Together with SoftPLCs, visualizations or own applications available on the market, they solve almost any automation task in the shortest possible time.

- Feasible for master and slave applications
- Ten card formats and 20 industrial master and slave protocols
- Standard drivers, tools and API for all cards thanks to Hilscher's platform strategy

### müller+krahmer GmbH

müller+krahmer GmbH in Kaulsdorf, Thuringia, specializes in test automation and automated data analysis. The range of services extends from conception to the configuration of hardware and software, programming of automated measurement and test applications as well as solutions for technical data management right down to turnkey commissioning on site. On board with the Hilscher PC card family cifX.



Holger Müller, Managing Director of müller+krahmer GmbH, outlines the application of AVENTICS GmbH in Laatzen, Lower Saxony, a well-known original equipment manufacturer and producer of pneumatic solutions and part of the Emerson Group: „In this case, we are realizing test benches for electro-pneumatic valves, known as 'continuous valves', which regulate pressures with high precision in proportion to the set value.“ These valves are all individually tested before they leave the factory. Part of the test process involves configuring the test specimens to take account of product and customer-specific pressure ranges, controller settings and interfaces, as well as comparing them with reference values, which are determined during the test. The configuration includes setting individual parameters as well as replacing the complete firmware and application software. The solution used by müller+krahmer must cater for more than 300 device

variants. This means „a huge range of interfaces and a wide variety of designs and pressure ranges, some of which have been subject to quite extensive testing,” says Müller.

### Best-in-Class Flexibility Thanks to cifX

The test bench specification, which requires a permanent change of the connected devices, was pivotal in müller+krahmer's decision to opt for cifX: Hilscher's cifX PC card family offers users a common standard for all Real-Time Ethernet and fieldbus systems used in PC-based automation applications. Thanks to Hilscher's uniform platform strategy, all PC cards use the same drivers, tools and API – regardless of protocol and card format. Hilscher's netX technology enables all the required Real-Time Ethernet protocols – currently EtherCAT, PROFINET and SERCOS III – to be implemented using a single

hardware. A protocol is changed simply by reloading the firmware.

### Automatic Protocol Change Minimizes Errors

This flexibility and multi-protocol capability ensures a drastic reduction in errors and a largely automated handling of the test by the end user. „We can change the bus on the fly with the cifX cards,” Müller explains. Manual input by the operator is no longer required, which shortens the test time and, above all, reduces the susceptibility to errors. Since the cifX PC card only has a single connection for several buses, there is also no need to switch the bus interface hardware between the test bench and the device, which would otherwise be necessary. „This eliminates another potential source of error. The test bench can be more compact and be used more flexibly

than would be possible with one physical interface per bus. Also there's no need to modify the test bench to integrate future bus protocols,” Müller continues. The cifX technology is therefore of interest to anyone faced with the challenge of having to test devices with different interfaces. „This is the case for all typical actuators,” says Müller, adding that it is obvious for „reasons of effort and handling“ to carry out such tests with a single machine. cifX technology is the right approach to this, and the expert believes that it is „absolutely recommended“.

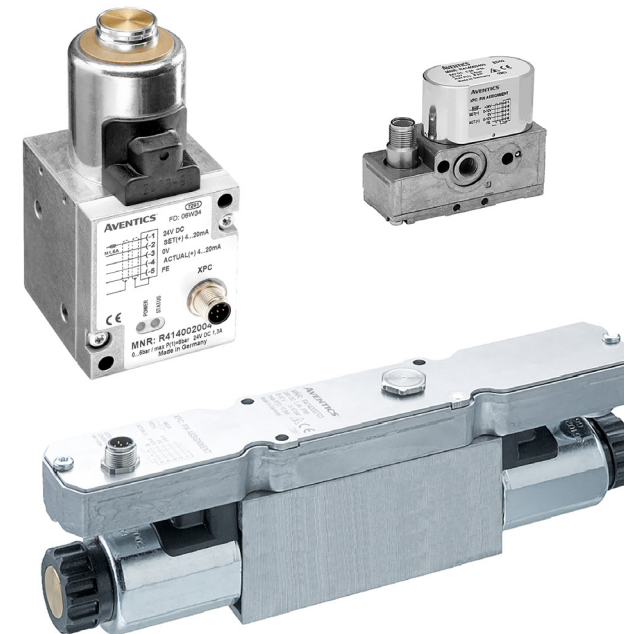


*“The cifX technology is the ideal solution for changing the bus on the fly. If we look into the future, we are relaxed, because thanks to cifX, we can easily integrate all requests for additional or new buses into our dynamic structure!”*

*Holger Müller  
Managing Director of müller+krahmer GmbH*

### Benefits of the Solution of müller+krahmer with cifX:

- All common industrial protocols covered resulting in maximum flexibility for users
- Minimization of error sources thanks to automatic bus configuration which ensures smooth production processes with time and cost savings for the user
- The complexity of a highly specific automation solution is reduced. Hilscher's expertise in industrial communication is available to users to meet all market requirements



For more information about müller+krahmer GmbH, please visit [www.mueller-krahmer.de](http://www.mueller-krahmer.de) (German)

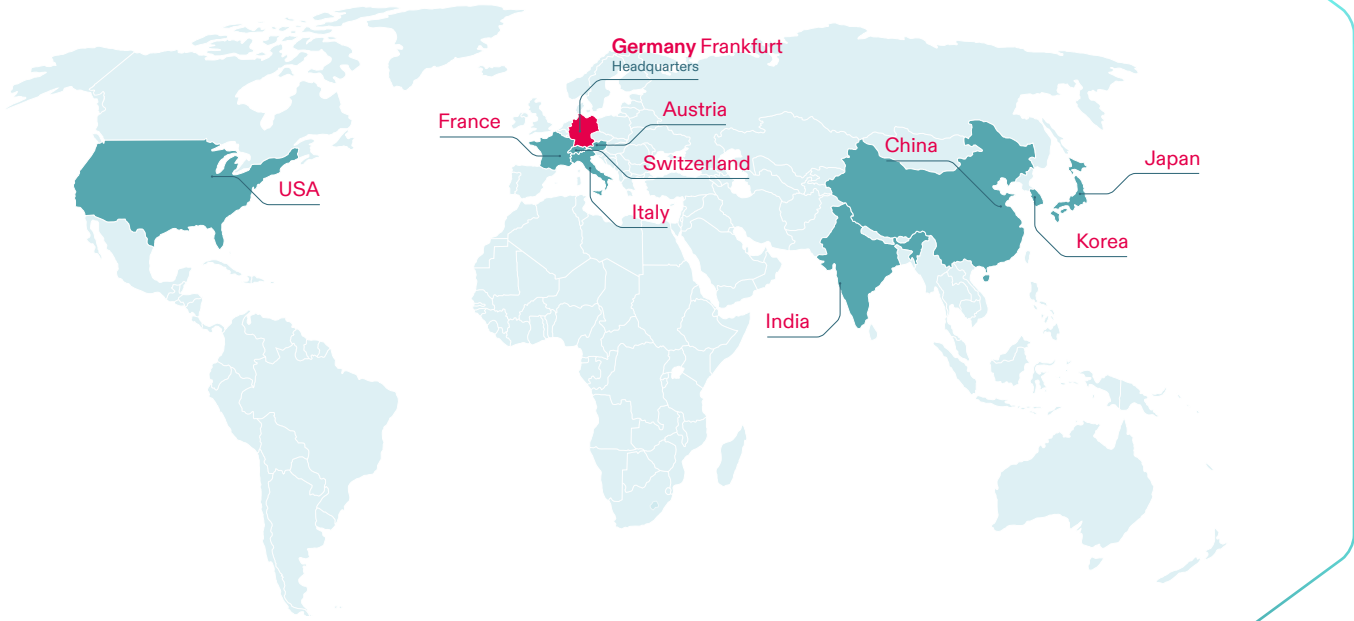
For more information about cifX, please visit [www.hilscher.com](http://www.hilscher.com)

empowering communication



→ QR Code Link: cifX  
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# We look forward to meeting you!



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