



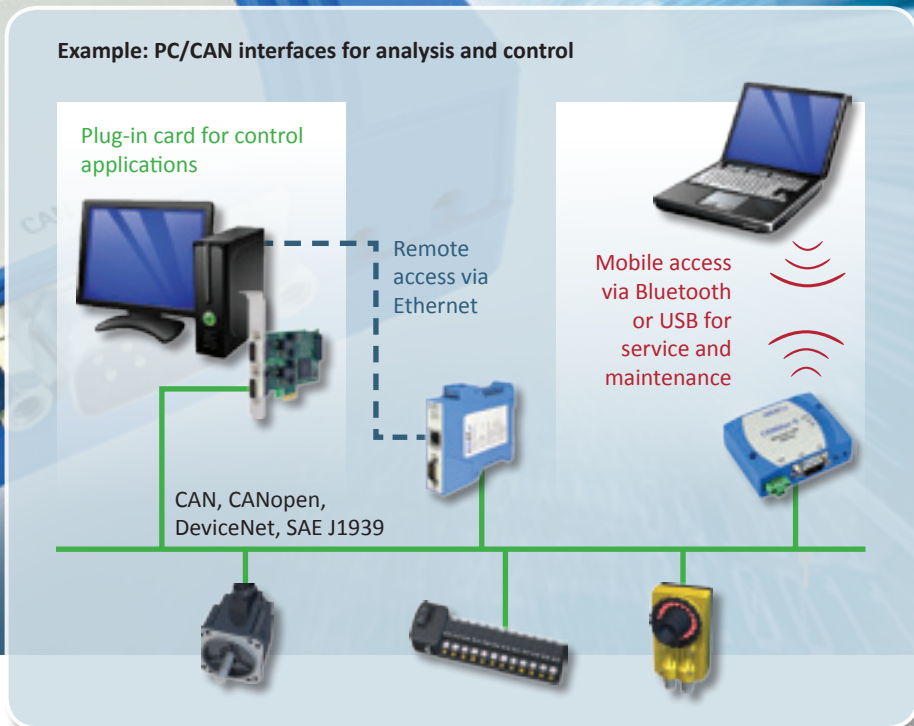
# IXXAT®

## *PC/CAN Interfaces*

Connect CAN, CAN FD-, CANopen,  
DeviceNet and SAE J1939 systems  
to your PC



Example: PC/CAN interfaces for analysis and control



## Highlights

- ✓ Support of all standard PC interfaces
- ✓ Common driver interface for easy exchange of the PC interface type without any changes to your application
- ✓ For CAN, CANopen, DeviceNet, SAE J1939
- ✓ Incl. powerful driver packages for Windows, Linux, INtime, QNX, RTX, and VxWorks
- ✓ High data throughput combined with low latency
- ✓ Long-term availability
- ✓ OEM versions and design-in solutions available
- ✓ High quality standards at development and production: Outgoing goods are 100 % tested

The IXXAT PC/CAN interfaces enable PC applications to access CAN networks with a uniquely variety of different PC interface standards. You select the PC/CAN interface that suits your application, performance requirements or required unit costs.

## Various variants and interfaces

IXXAT CAN interfaces are – depending on the variant – modularly designed and can be equipped with up to four CAN high-speed channels as well for automotive use with CAN low-speed and LIN channels. For fast networks, the CAN interfaces are also available with up to two CAN FD channels. In addition, the interfaces can be galvanically isolated to protect both the interface and the PC system.

Besides a wide range of supported PC interface standards, from plug-in cards for e.g. PCI, PCIe, PCIe Mini, PMC, PCIe 104 to USB, Bluetooth and Ethernet, there are also PC interfaces in

low-cost passive or active variants with powerful on-board controllers.

Active PC interfaces allow usage within applications with high demands on data pre-processing, such as high-precision time stamps or the active filtering of messages to be sent or received directly on the interface.

In addition to custom applications, the CAN interfaces are also basis for our extensive tool chain – consisting of analysis and configuration tools – as well as configuration software from a wide variety of equipment manufacturers.

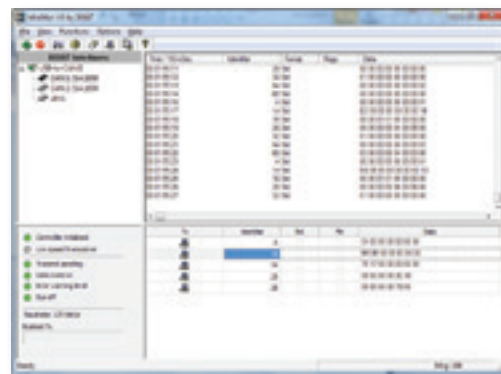
## Powerful driver packages for Windows and real-time operating systems

Despite the variety of different PC/CAN interfaces, all interfaces can be operated with the hardware-independent drivers for Windows (VCI) and real-time operating systems (ECI) by using a uniform programming interface.

Switching between the PC/CAN interfaces type is very easy and can be made without changes to your application. Thus, you are already well prepared for future technologies.

### Windows

The "Virtual Communication Interface" (VCI) is designed as a system server and allows simultaneous access by several applications to one or more CAN controllers of one or more PC interfaces. Moving all important functions to the kernel optimizes the real-time compatibility of the VCI driver substantially.









CAN bus monitor "miniMon"

The VCI CAN driver is available for 32 and 64 bit Windows operating systems and also includes a simple CAN bus monitor "miniMon", which enables the transmission and reception of CAN messages.

### VCI application interface:

- C-API
- .NET-API
- JAVA-API
- LabView-API

Technical data									
Product	CAN-IB100 /PCIe	CAN-IB200 /PCIe	CAN-IB300 /PCI	CAN-IB400 /PCI	CAN-IB500 /PCIe	CAN-IB600 /PCIe	CAN-IB120 /PCIe Mini	PC-I 04 /PCI	iPC-I XC16 /PCI
PC interface standard	PCI express (V1.1)		PCI (V2.2)		PCI express (V1.1)		PCIe mini card (V1.2)	PCI (V2.1)	PCI (V2.2)
Microcontroller	Passive	32 Bit	Passive	32 Bit	Passive	32 Bit	Passive	Passive	16 Bit
Fieldbus interfaces	1-4 x CAN	1-4 x CAN 1-4 x LIN/K-Line opt.	1-4 x CAN	1-4 x CAN 1-4 x LIN/K-Line optional	1 x CAN	1-2 x CAN	1 / 2 x CAN	1 / 2 x CAN	2 x CAN 1 x LIN (optional)
CAN interface	CAN 2.0 A/B		CAN 2.0 A/B		CAN 2.0 A/B and <b>CAN FD</b>		CAN 2.0 A/B	CAN 2.0 A/B	CAN 2.0 A/B
CAN bus interface	ISO 11898-2 optional switchable to ISO 11898-3		ISO 11898-2 optional switchable to ISO 11898-3		ISO 11898-2		ISO 11898-2	ISO 11898-2	ISO 11898-2 opt. switchable to ISO 11898-3
CAN connection	Sub D9 plug according to CiA 303-1		Sub D9 plug according to CiA 303-1		Sub D9 plug according to CiA 303-1		Connection cable with open ends	Sub D9 plug according to CiA 303-1	Sub D9 plug according to CiA 303-1
Galvanic isolation	optional (1 kV, 1 sec.)		optional (1 kV, 1 sec.)		yes (1 kV, 1 sec.)		optional (1 kV, 1 sec.)	optional (1 kV, 1 sec.)	optional (1 kV, 1 sec.)
Temperature range	0 °C ... +70 °C		0 °C ... +70 °C		0 °C ... +70 °C		-40 °C ... +85 °C	-20 °C ... +70 °C	-20 °C ... +70 °C
Power supply	3.3 V DC, 350 mA typ.	3.3 V DC, 390 mA typ.	5 V DC, 100 mA typ. and 3.3 V DC, 100 mA typ.	5 V DC, 100 mA typ. and 3.3 V DC, 500 mA typ.	3.3 V DC, 380 mA typ.	3.3 V DC, 400 mA typ.	3.3 V DC	5 V DC, 300 mA typ.	5 V DC, 100 mA typ. + 3.3 V DC, 185 mA typ.
Certification	CE, FCC		CE, FCC		CE, FCC		CE, FCC	CE, CSA/UL	CE, CSA/UL, FCC, EN 60601-1
Dimensions	approx. 65 x 105 mm		approx. 65 x 120 mm		approx. 65 x 105 mm		30 x 50.95 mm	approx. 95 x 125 mm	approx. 123 x 90 mm
Order number	1.01.0231.xxxxx Low-profile vers. 1.01.0232.xxxxx	1.01.0233.xxxxx Low-profile vers. 1.01.0234.xxxxx	1.01.0291.xxxxx Low-profile vers. 1.01.0292.xxxxx	1.01.0293.xxxxx Low-profile vers. 1.01.0294.xxxxx	1.01.0231.12010 Low-profile vers. on request	1.01.0233.xxxxx Low-profile vers. on request	1.01.0237.xxxxx	1.01.0057.xxxxx	1.01.0047.xxxxx



- DasyLab (contains drivers for IXXAT interfaces)
- LabWindows










### Linux, INtime, RTX, QNX and VxWorks

For use of the CAN interfaces under Linux and in real-time environments (INtime, RTX, QNX, VxWorks), IXXAT provides the universal “Embedded Communication Interface” driver (ECI) free of charge together with an interface. The application interface is designed as a “ANSI-C” interface and contains all necessary functions for CAN-based applications.

### CANopen and SAE J1939 APIs

For use of the CAN interfaces under CANopen and J1939, IXXAT offers driver APIs that provide all protocol-specific functions and thus enable quick and easy development of PC-based control and configuration applications.



								
<b>iPC-I XC16 /PMC</b>	<b>CAN-IB130 /PCIe 104</b>	<b>CAN-IB230 /PCIe 104</b>	<b>PC-I 04 /104</b>	<b>USB-to-CAN V2 compact</b>	<b>USB-to-CAN V2 professional</b>	<b>USB-to-CAN V2 embedded</b>	<b>CAN@net II /VCI</b>	<b>CANblue II</b>
PMC (V2.2)	PCI Express (V1.1)		PC/104	USB (V2.0, high speed)	USB (V2.0, high speed)	USB (V2.0, high speed)	Ethernet	Bluetooth (V2.1)
16 Bit	Passive	32 Bit	Passive	32 Bit	32 Bit	32 Bit	32 Bit	32 Bit
2 x CAN 1 x LIN	1 / 2 x CAN	2 / 4 x CAN 1 x LIN	1 / 2 x CAN	1 x CAN	2 x CAN 1 x LIN (optional)	1 x CAN	1 x CAN	1 x CAN
CAN 2.0 A/B	CAN 2.0 A/B		CAN 2.0 A/B	CAN 2.0 A/B	CAN 2.0 A/B	CAN 2.0 A/B	CAN 2.0 A/B	CAN 2.0 A/B
ISO 11898-2 / 11898-3 switchable	ISO 11898-2	ISO 11898-2 1 x ISO 11898-3 switchable (opt.)	ISO 11898-2	ISO 11898-2	2 x ISO 11898-2 1 x ISO 11898-3 switchable (optional)	ISO 11898-2	ISO 11898-2	ISO 11898-2
Sub D9 plug according to CiA 303-1	Angled socket board 2x5		Angled socket board 2x5	Sub D9 or RJ45 plug according to CiA 303-1	2 x RJ45 plug with RJ45/Sub-D9 adapter cable	Sub D9 plug according to CiA 303-1	Sub D9 plug according to CiA 303-1	Sub D9 plug according to CiA 303-1
yes (1 kV, 1 sec.)	yes (1 kV, 1 sec.)		optional (1 kV, 1 sec.)	optional (1 kV, 1 sec.)	optional (1 kV, 1 sec.)	optional (1 kV, 1 sec.)	yes (1 kV, 1 sec.)	yes (1 kV, 1 sec.)
-20 °C ... +70 °C	-40 °C ... +85 °C		-20 °C ... +70 °C	-20 °C ... +70 °C	-20 °C ... +70 °C	-20 °C ... +70 °C	-20 °C ... +70 °C	-40 °C ... +85 °C
5 V DC, 100 mA typ. + 3.3 V DC, 200 mA typ.	3.3 V DC, 350 mA typ.	3.3 V DC, 390 mA typ.	5 V DC, 150 mA	via USB port, approx. 250 mA	via USB port, 500 mA max.	via USB port, approx. 250 mA	9-32 V DC, approx. 3 W	9-30 V DC, approx. 0.6 W
CE, FCC	CE, FCC		CE, CSA/UL	CE, FCC	CE, FCC	CE, FCC	CE, CSA/UL, FCC	CE, FCC, Telec
approx. 74 x 149 mm	approx. 90 x 96 mm		approx. 90 x 96 mm	approx. 80 x 50 x 23 mm	approx. 80 x 50 x 23 mm	appr. 75 x 40 x 15 mm (without slot plate)	approx. 22.5 x 100 x 115 mm	approx. 82 x 64 x 26 mm
1.01.0049.33660	1.01.0238.12000 1.01.0238.22000	1.01.0239.22000 1.01.0239.42001	1.01.0070.xxxxx	Compact 1.01.0281.xxxxx	Professional 1.01.0283.22002 Automotive 1.01.0283.22042	Embedded 1.01.0282.12001	1.01.0086.10200	1.01.0126.12000 1.01.0126.12001 (Version with ext. antenna)



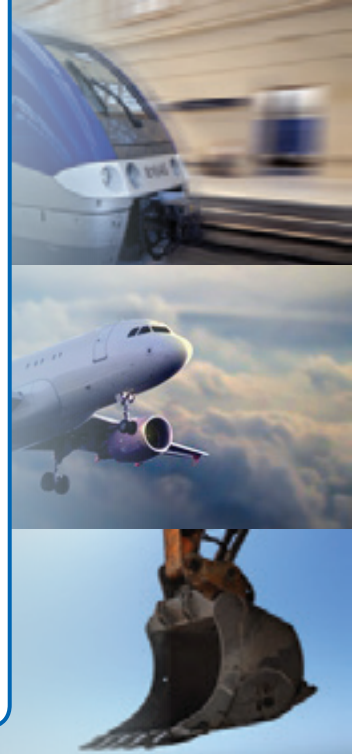
- PC-based control applications
- Mobile service access via USB, Bluetooth or Ethernet
- Analysis of CAN-systems, e.g. in combination with the IXXAT canAnalyser
- Configuration of devices and systems with IXXAT CANopen tools

## Industrial



- Analysis of CAN (high and low speed), CAN FD and LIN systems
- Control applications based on SAE J1939 or layer-2 driver API
- Mobile data acquisition via USB, Bluetooth or Ethernet

## Automotive



## Whether standard or customized – we always have the suitable interface solution

IXXAT PC interfaces are used in a wide range of industries and fulfill the specific requirements of different applications and fields of operation.

### Industries

- Automotive industry
- Industrial automation and mechanical engineering
- Building automation
- Medical technology
- Commercial vehicles and agricultural engineering
- Shipping and aircraft industry
- Trains and rail vehicles
- Power generation and energy management

### Customized solutions

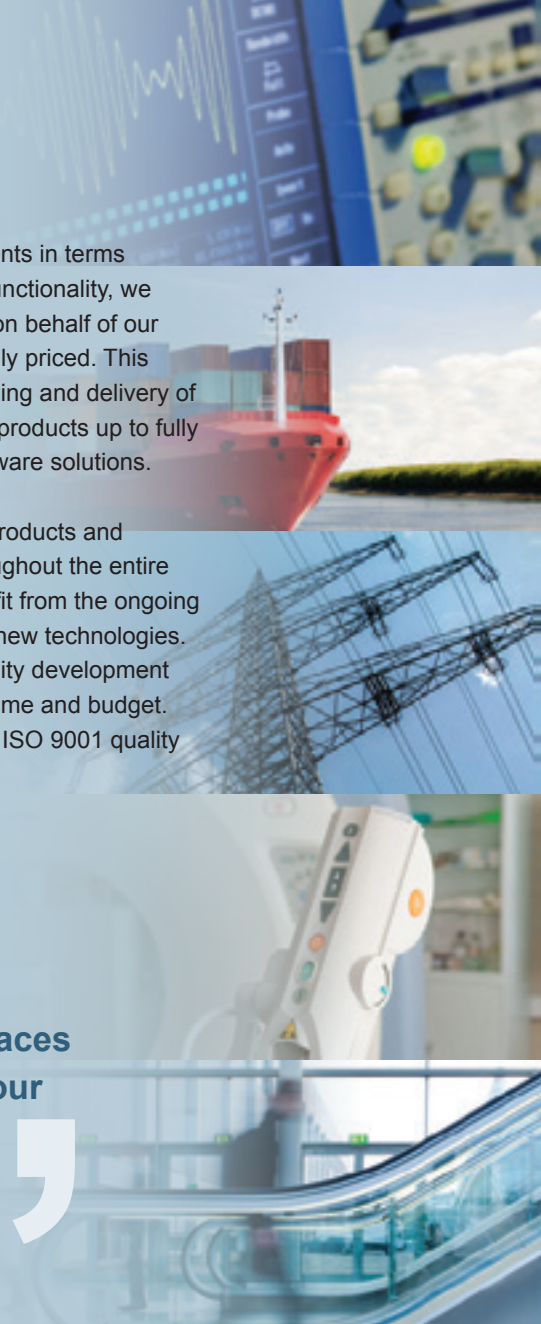
At specific customer requirements in terms of form factor, interfaces and functionality, we develop customized solutions on behalf of our customers – fast and reasonably priced. This ranges from simple brand labeling and delivery of OEM versions of our standard products up to fully customized hardware and software solutions.

Typically, we take care of the products and projects of our customers throughout the entire life cycle. Our customers benefit from the ongoing investments we are making in new technologies. Our aim is to achieve high quality development results within the given time frame and budget. Basis for this philosophy is our ISO 9001 quality management.



“With a wide range of CAN interfaces we offer the right solution for your application.”

*Christian Schlegel  
IXXAT, Managing Director*



## HMS Industrial Networks

IXXAT CAN interfaces from HMS Industrial Networks enable the best possible connection of PC systems to CAN based networks. Through the use of precisely matching solutions – selected from our large hardware portfolio – and the corresponding software packages available at HMS, our customers gain a competitive advantage. HMS' knowledgeable staff along with distributors and partners in over 50 countries worldwide, are there to help you and your business increase productivity and performance while lowering cost and time to market.



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